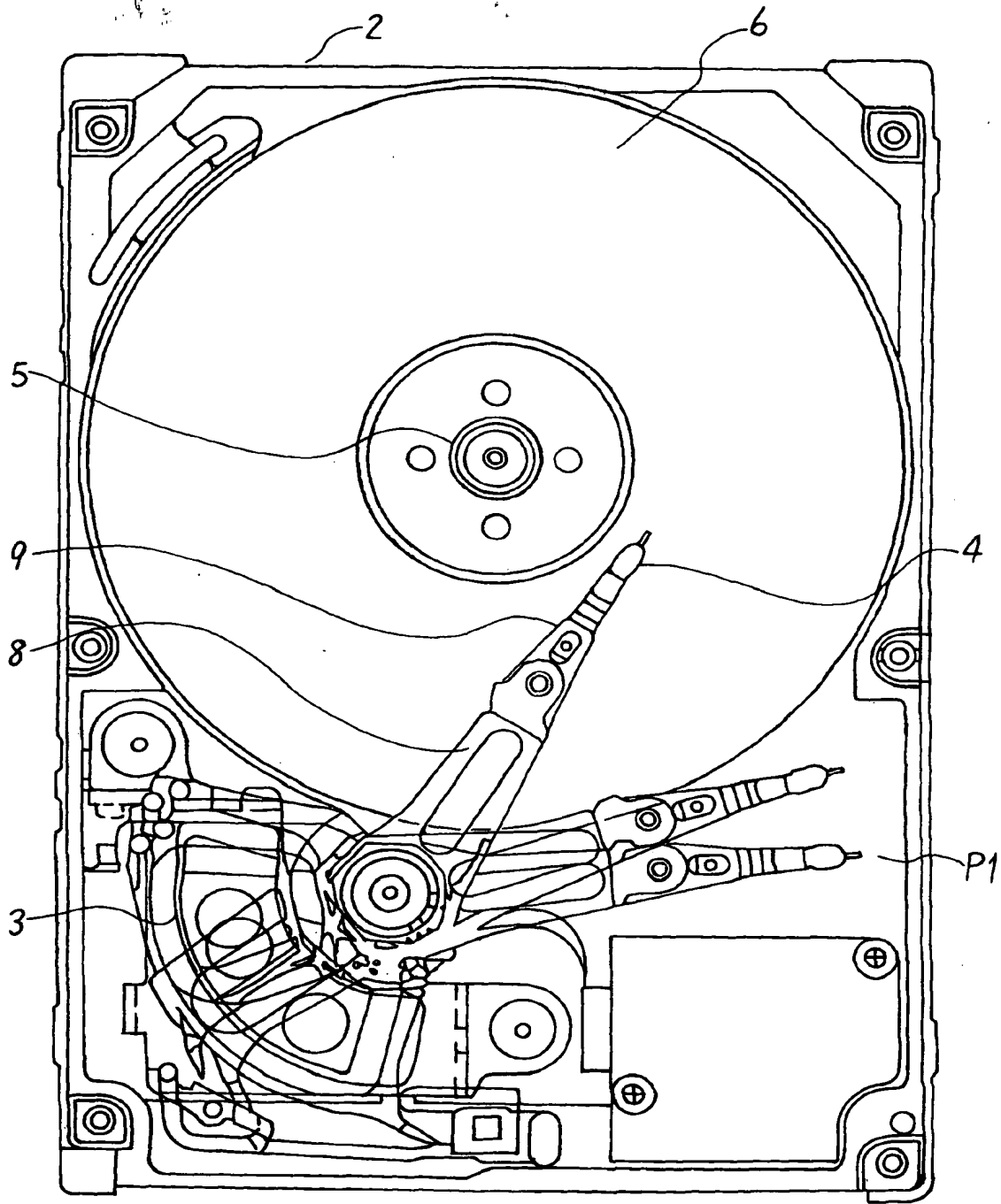


APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 1 of 47

FIG. 1



09713578.111600

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...

Takahiko Takaishi

Greer, Burns & Crain, Ltd. (James Folker)

Ref. No. 3408.64941

(312) 360 0080

Sheet 2 of 47

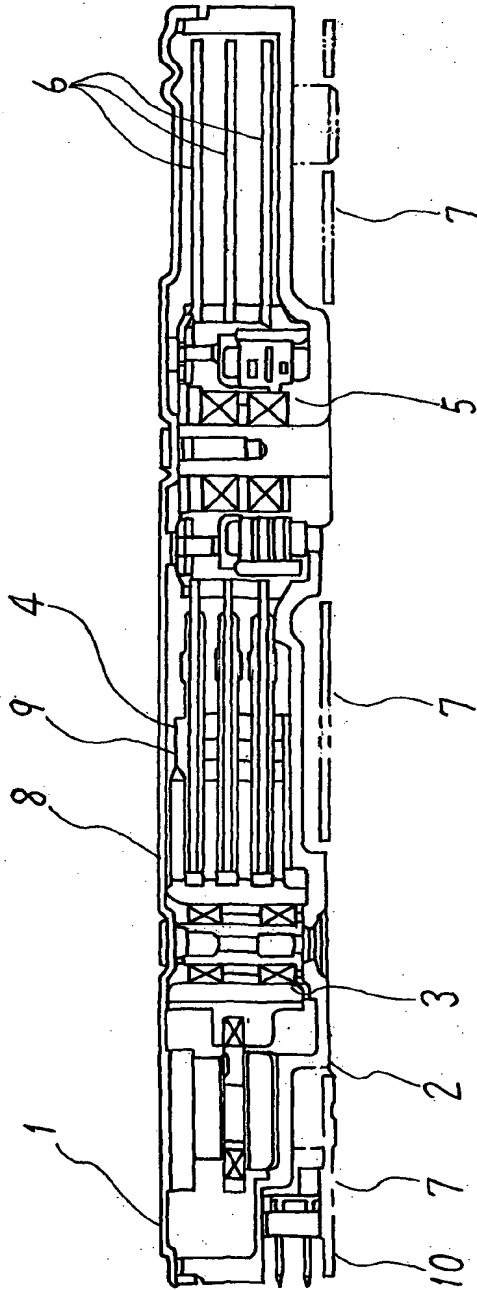


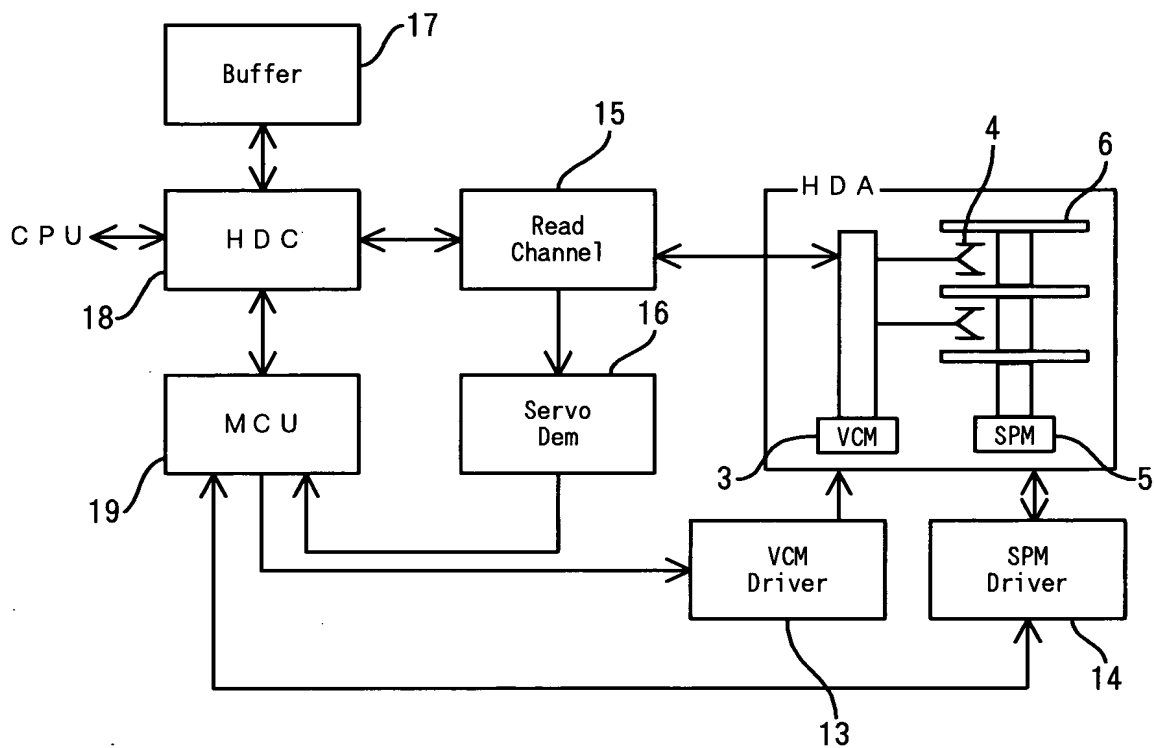
FIG. 2

009111" 8/SET/60

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

HEAD POSITIONING CONTROL METHOD
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 3 of 47

FIG. 3

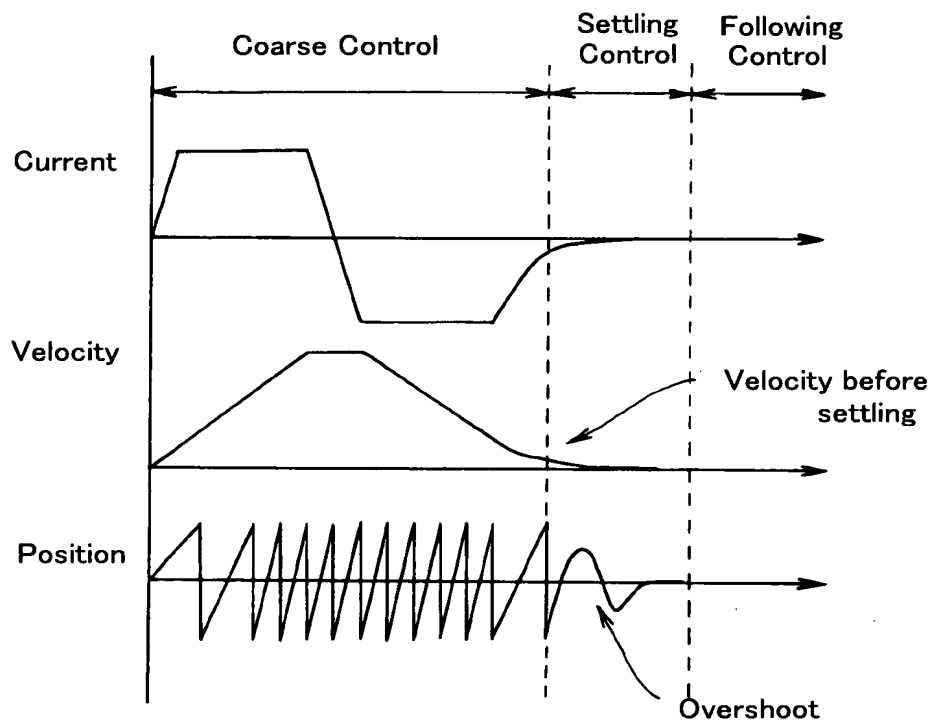


009111" B/5ET/60

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 4 of 47

FIG. 4



09713578-111600

SECRET

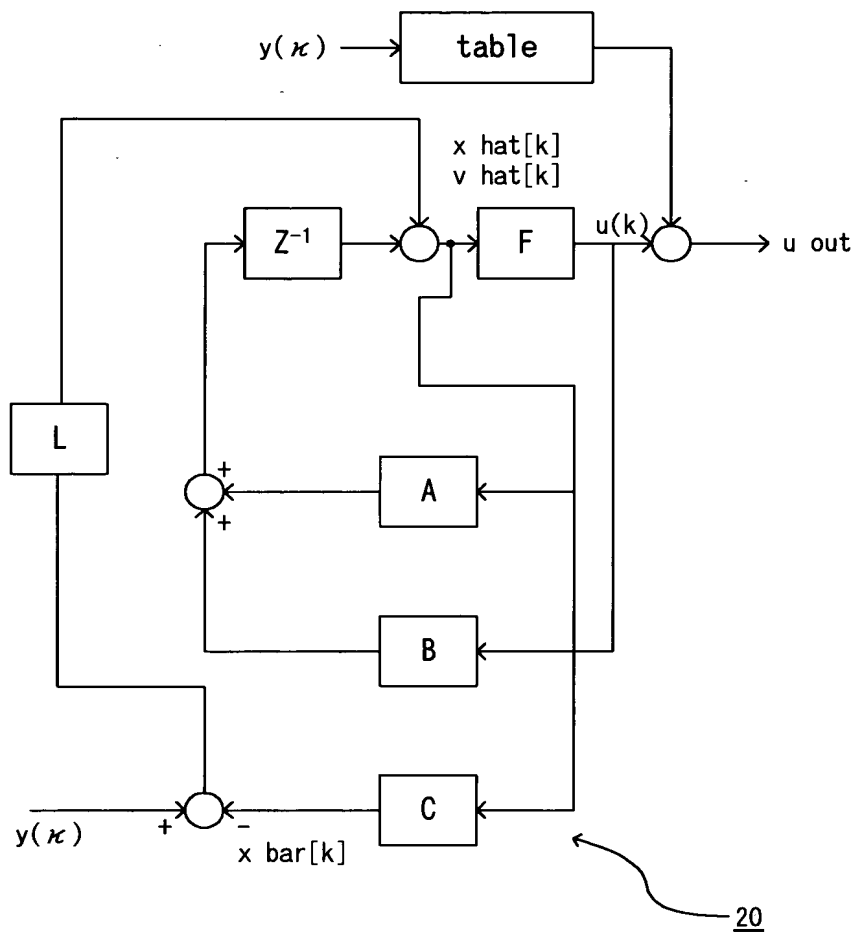
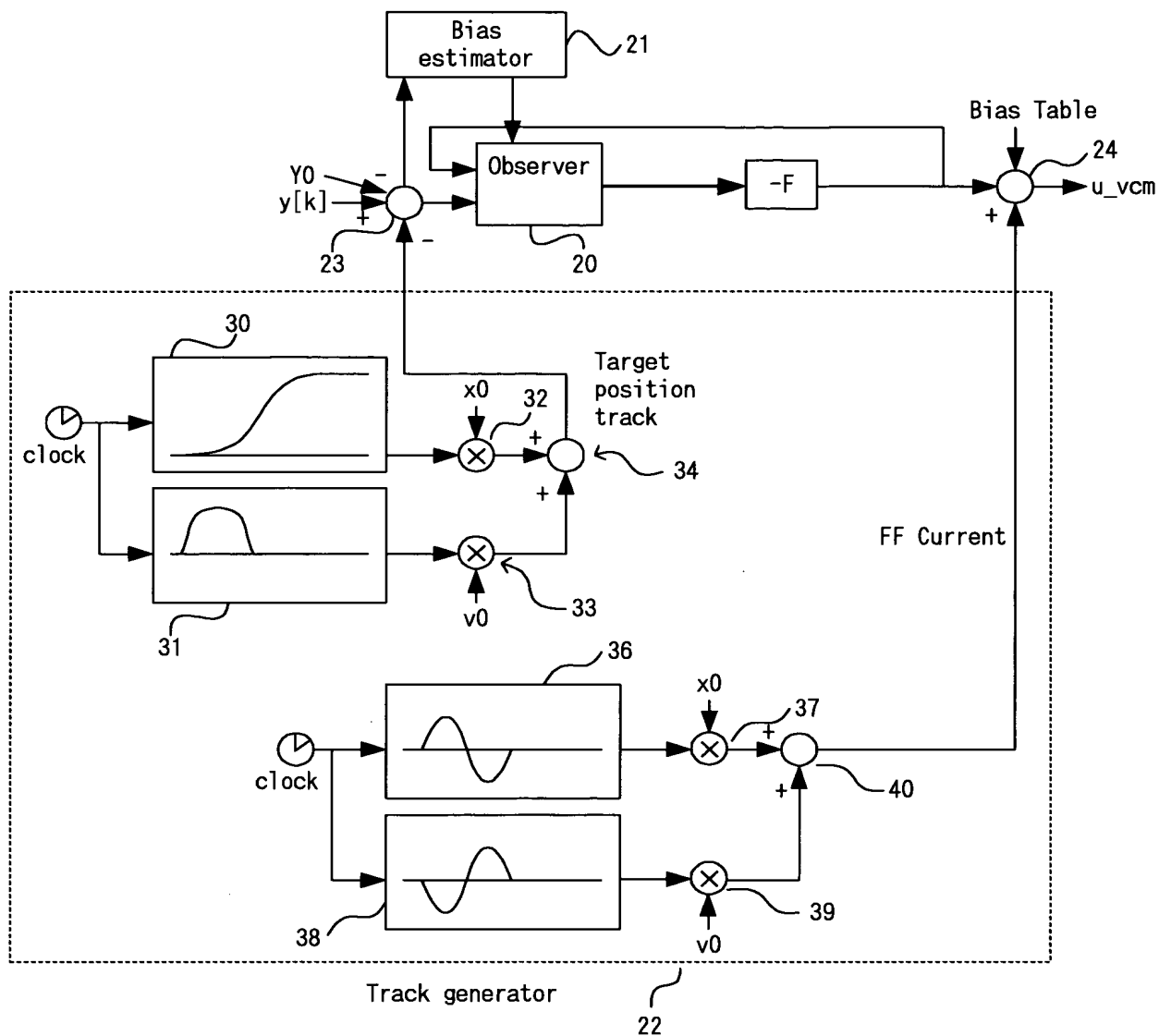


FIG. 6



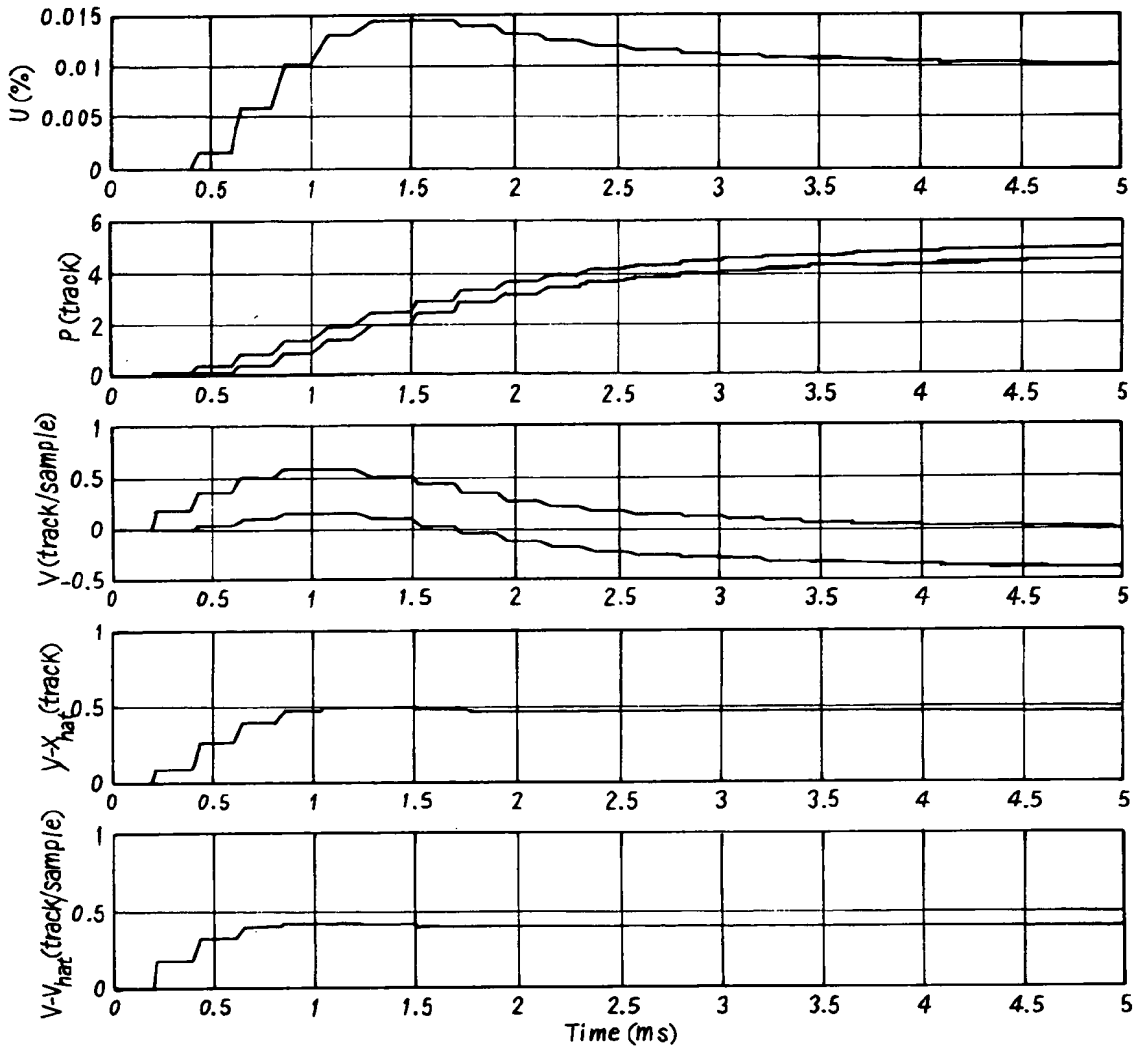
0971.3578.11600

APPROVED	O.G. FIG.
BY	CLASS
DRAFTSMAN	SUBCLASS

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 7 of 47

FIG. 7

Response when bias is applied



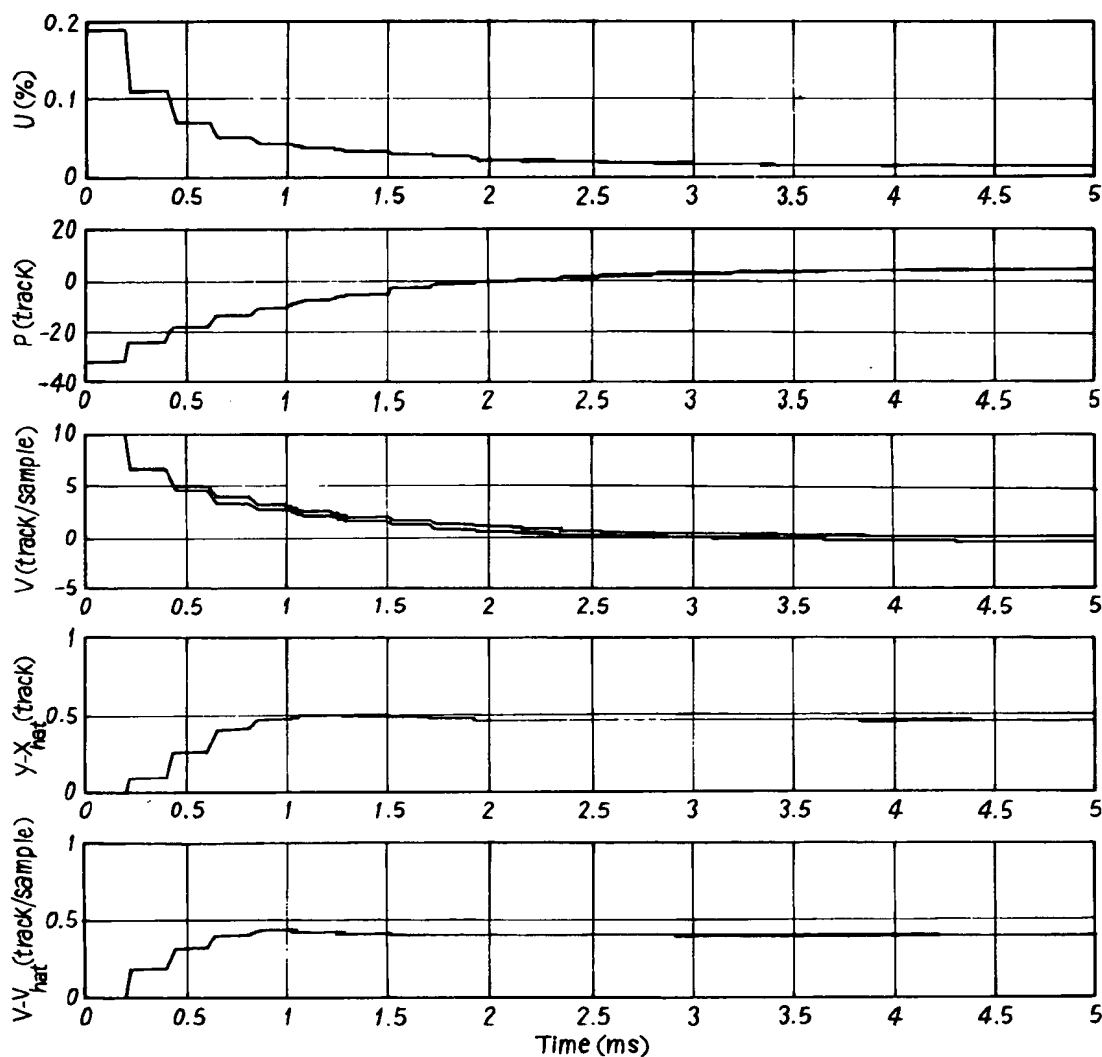
009111" 8/55T/60

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 8 of 47

FIG. 8

Response when bias is applied



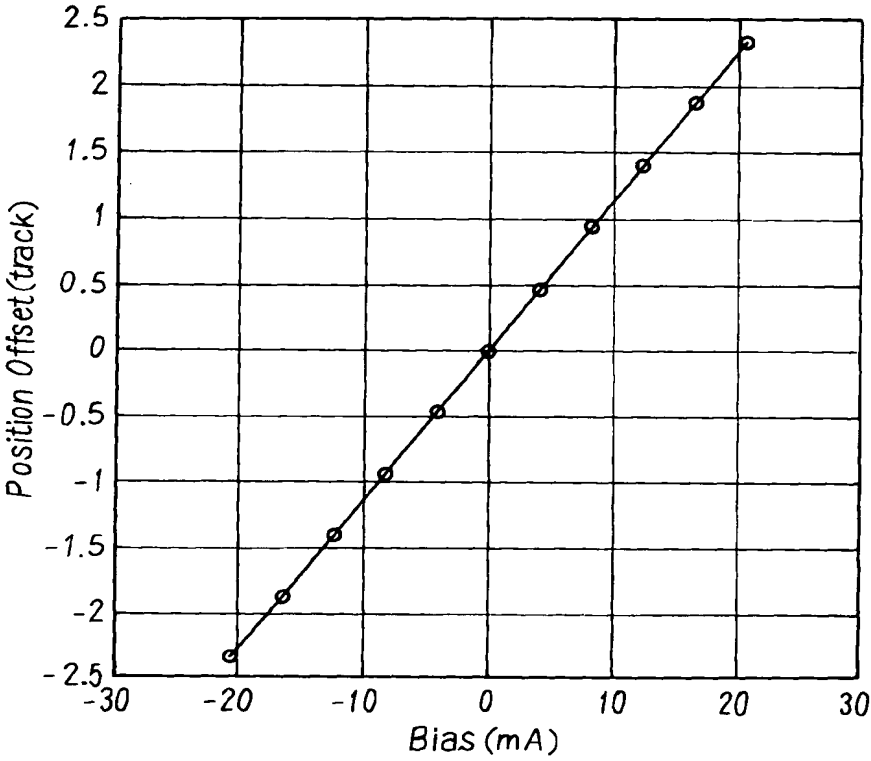
00911" B25ET/60

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

HEAD POSITIONING CONTROL METHOD
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 9 of 47

FIG. 9

Relation bias and position offset



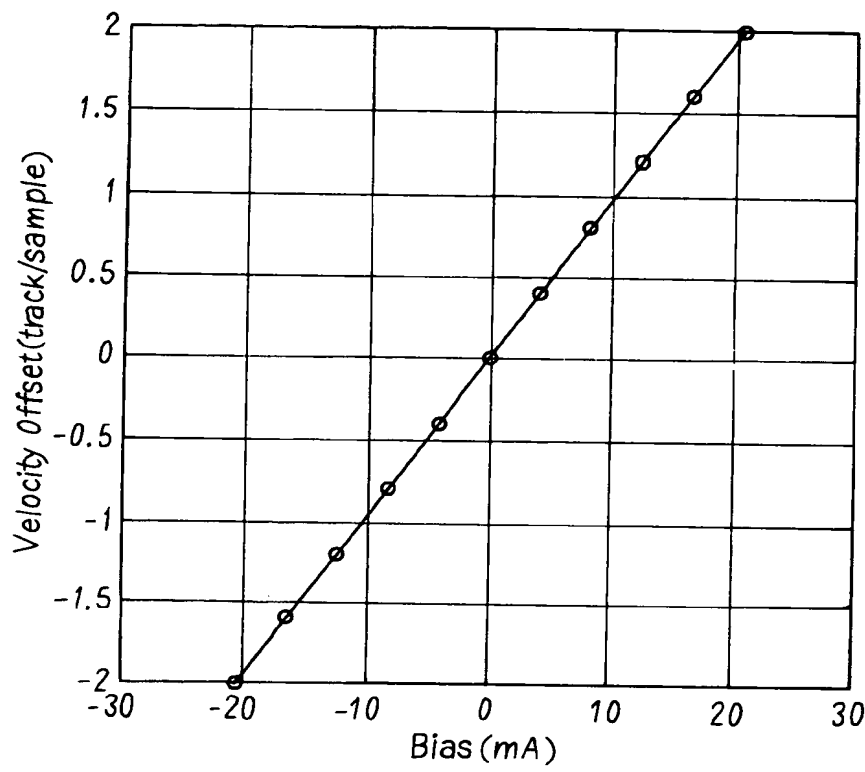
009111" 825ET 260

APPROVED	O.G. FG.
BY	CLASS/SUBCLASS
DRAFTSMAN	

HEAD POSITIONING CONTROL MET
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 10 of 47

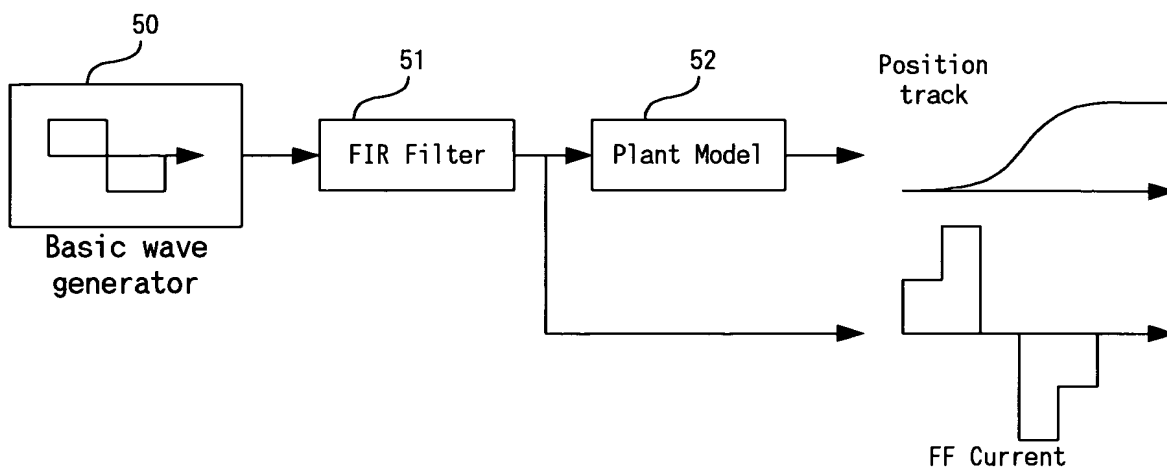
FIG. 10

Relation bias and velocity offset



009111" 8/55E1760

FIG. 11



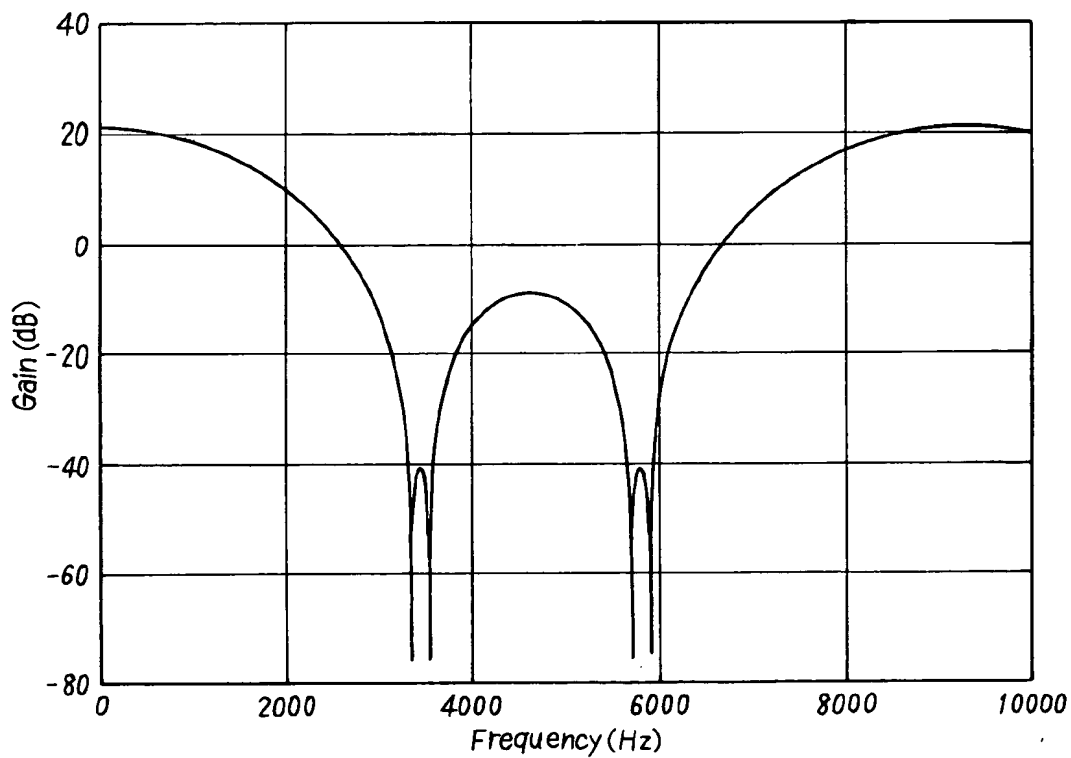
09713578 1.1.1600

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS
DRAFTSMAN	

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 12 of 47

FIG. 12

FIR Filter



009111" 8/55T/60

APPROVED	O. G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 13 of 47

FIG. 13A

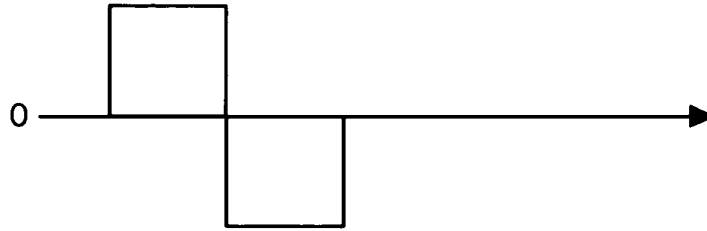


FIG. 13B

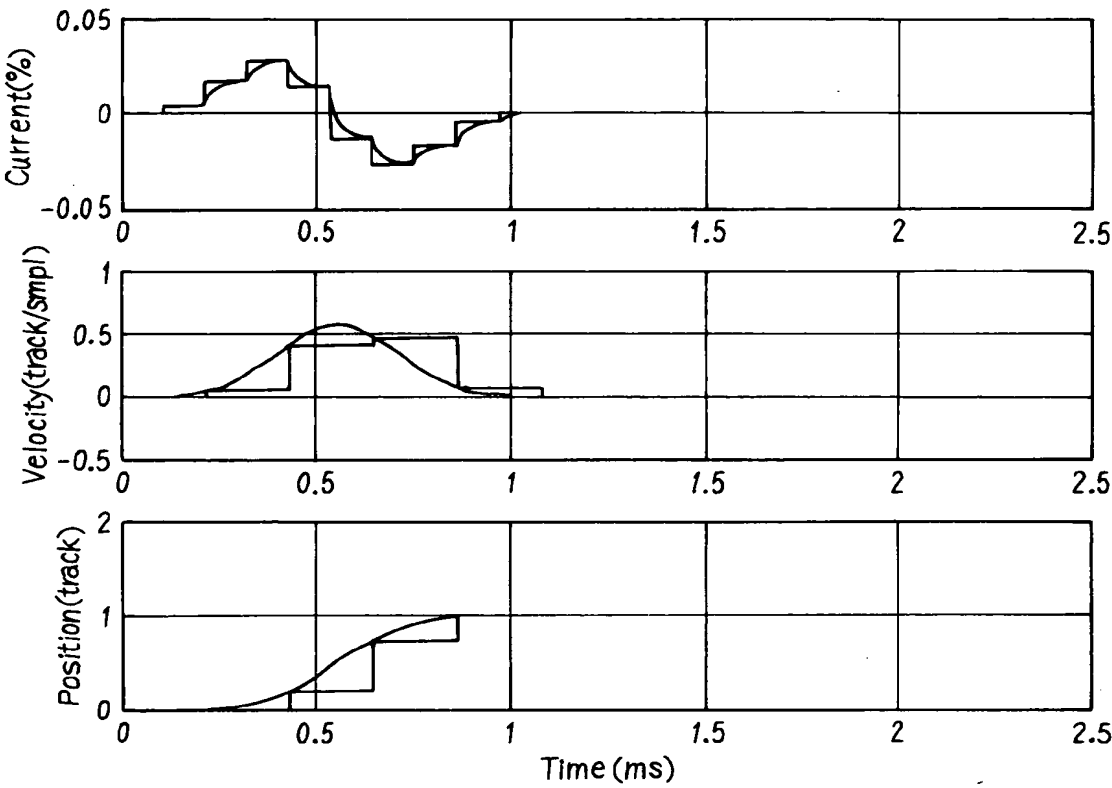


009111825ET250

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 14 of 47

FIG. 14

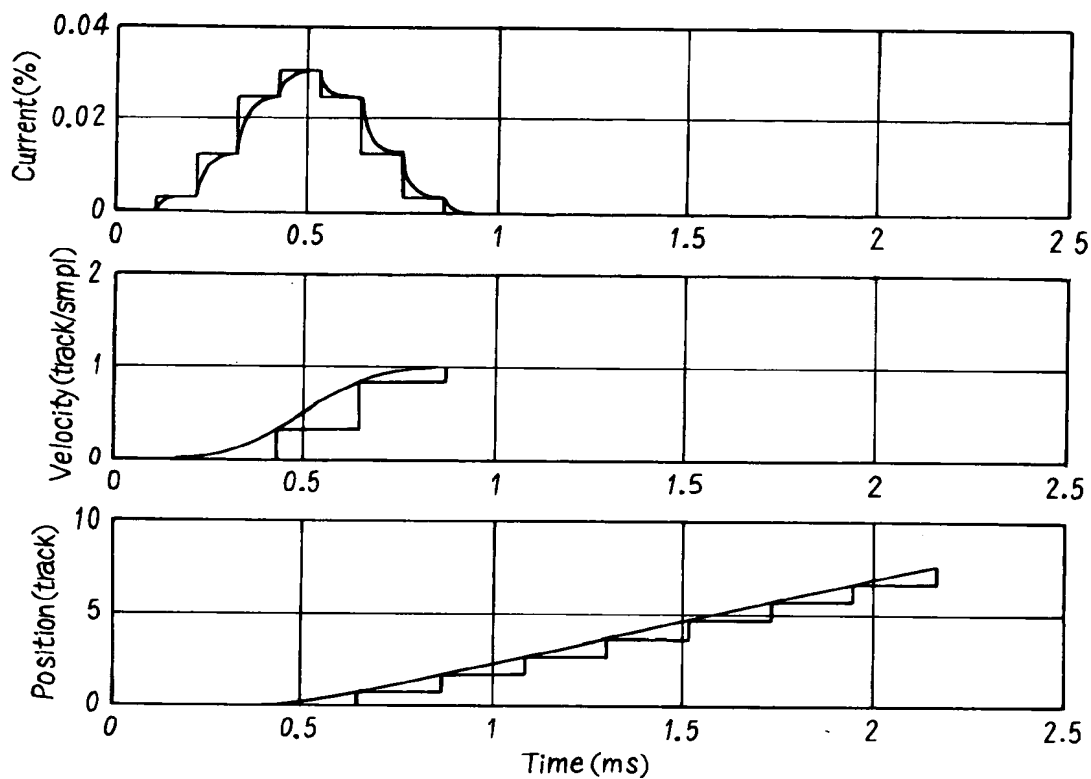


009111" 12/55ET/60

APPROVED	O.G. FIG.
BY	CLASS/SUBCLASS
DESIGNER	

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 15 of 47

FIG. 15

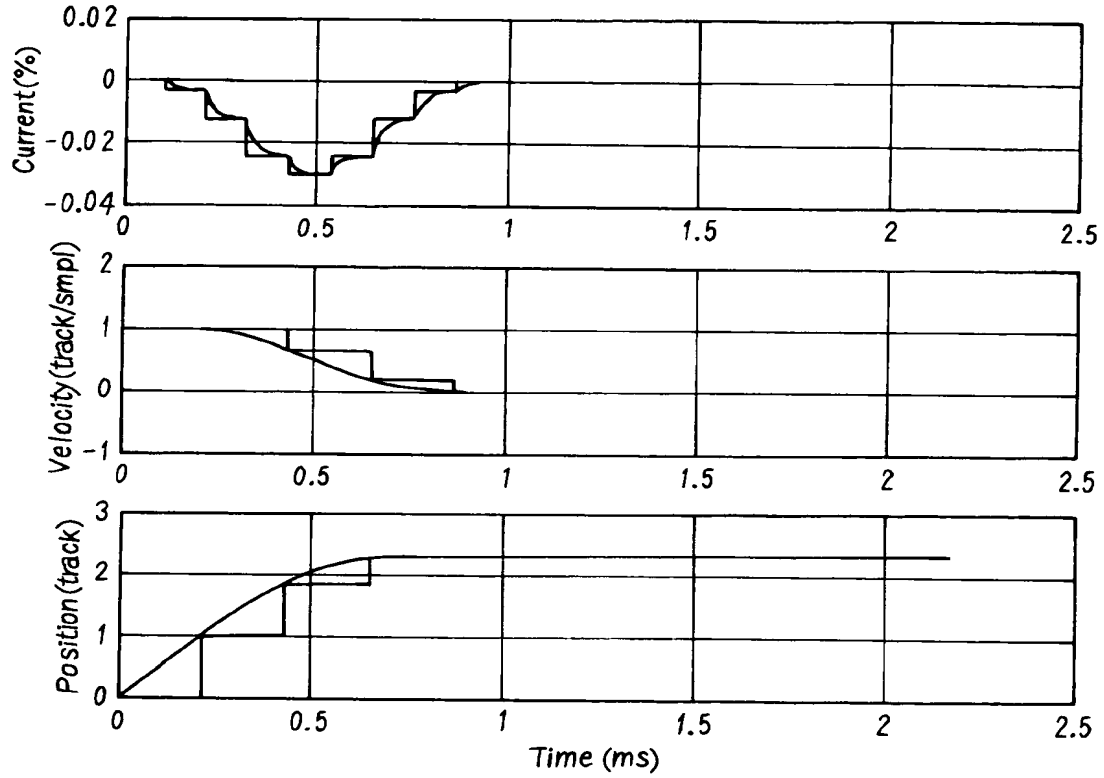


009111 82551260

APPROVED	D.G. FG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
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 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 16 of 47

FIG. 16

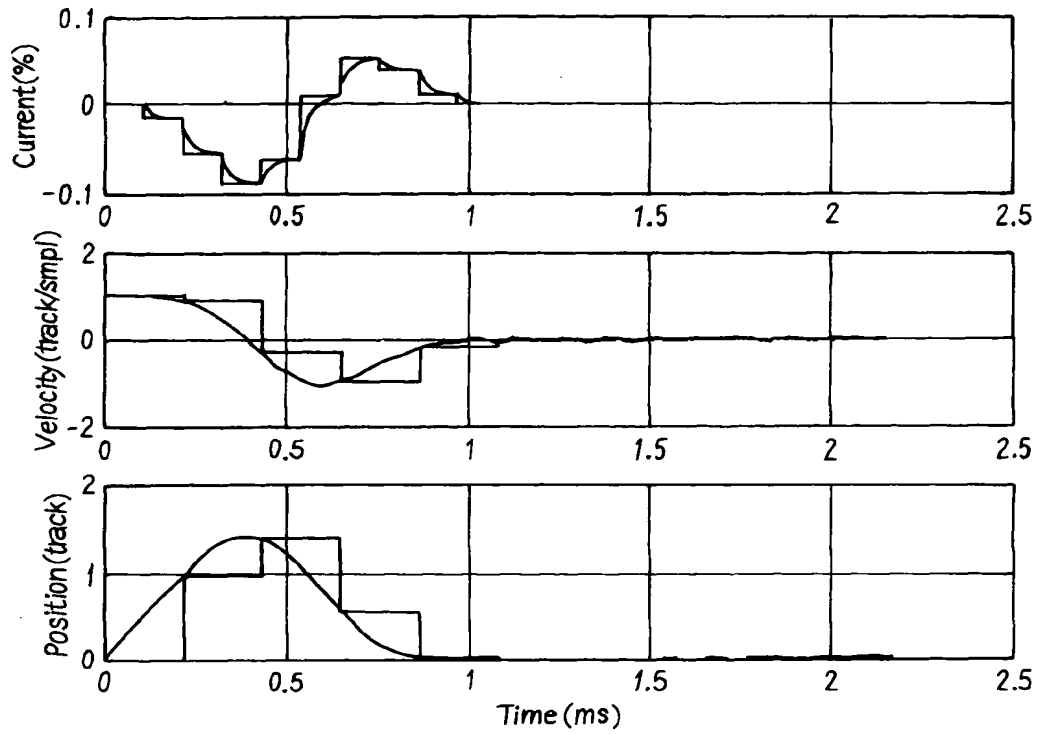


00911"825ET260

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DATE		

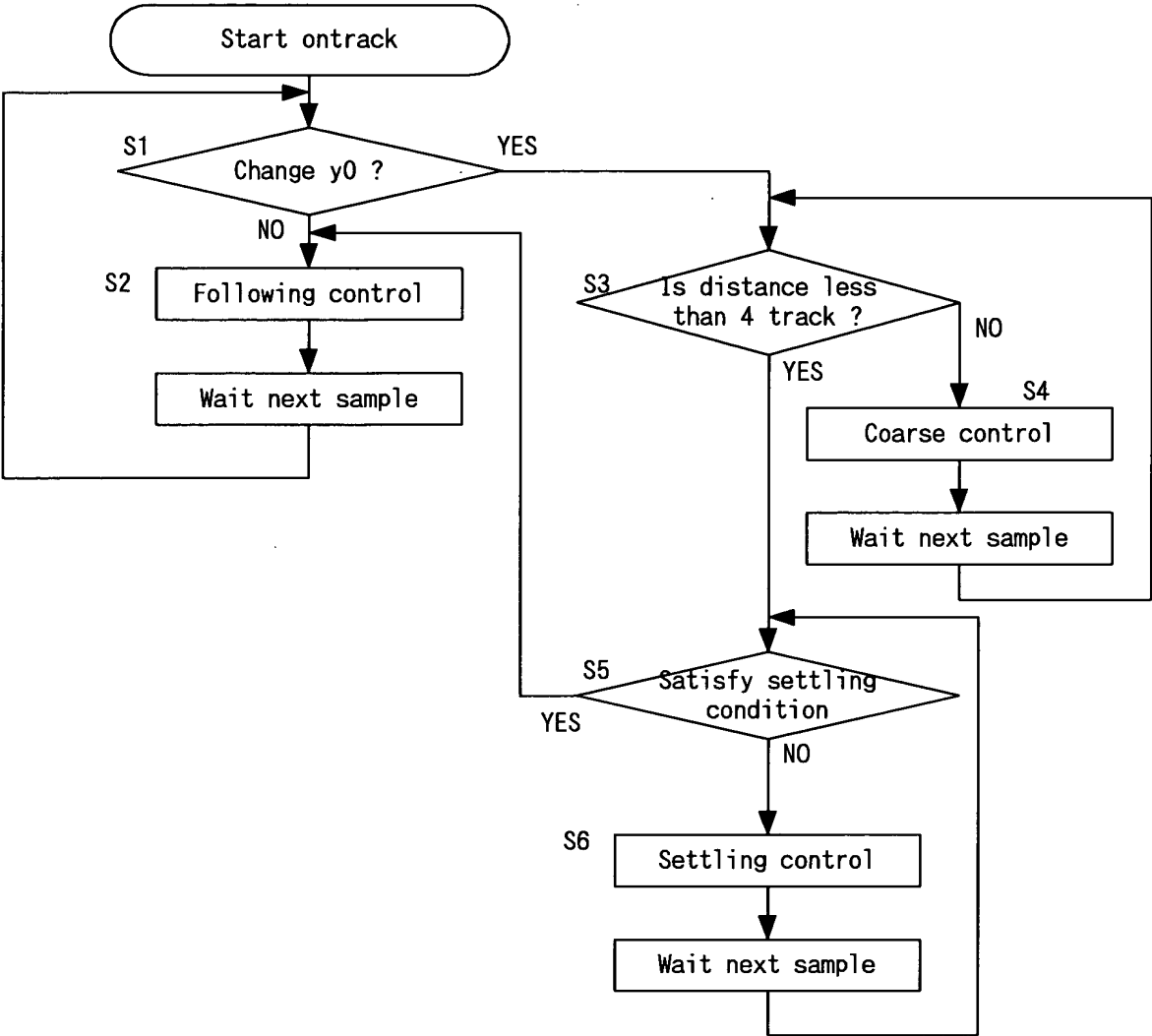
HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 17 of 47

FIG. 17



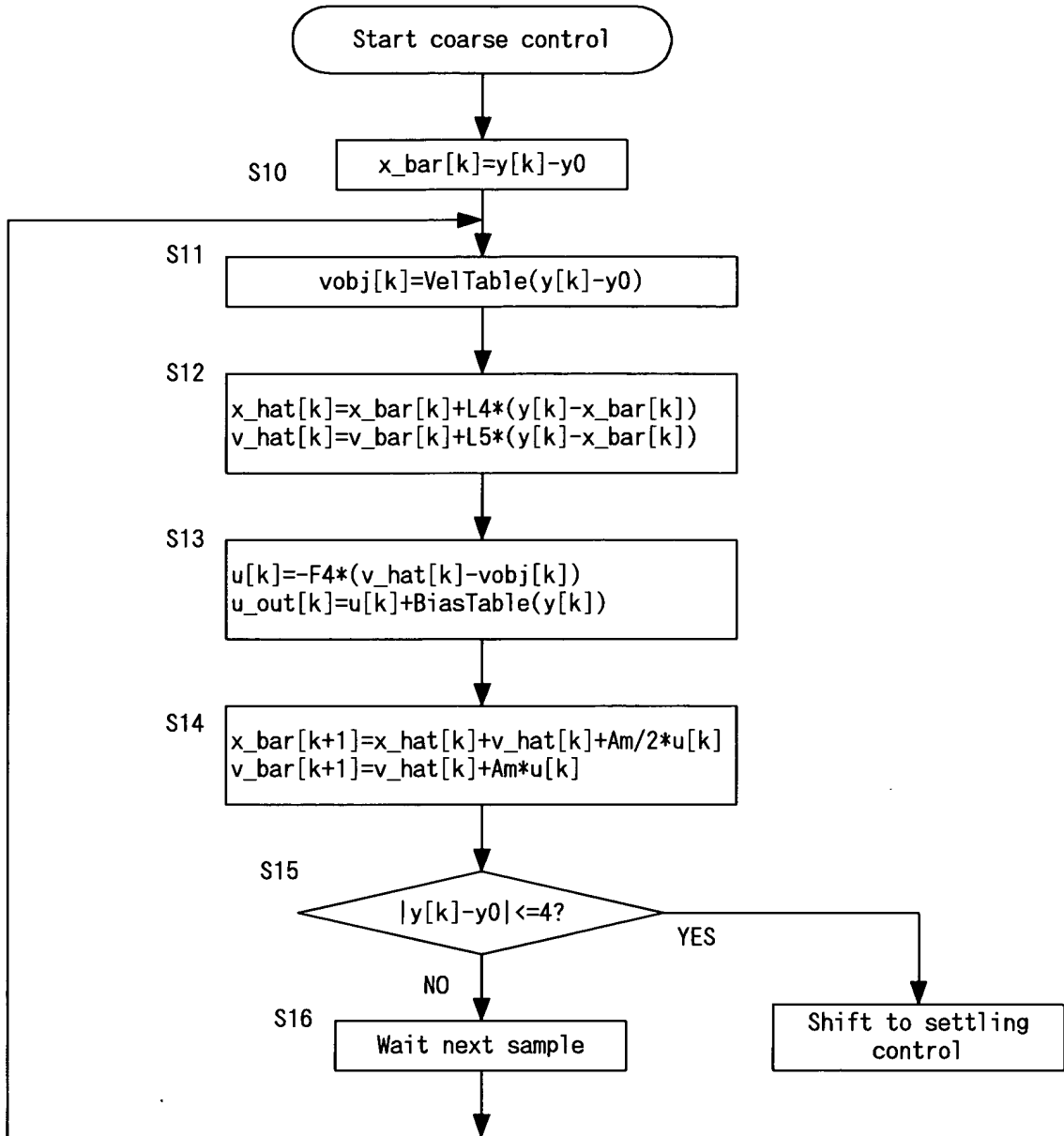
09713578-11600

FIG. 18



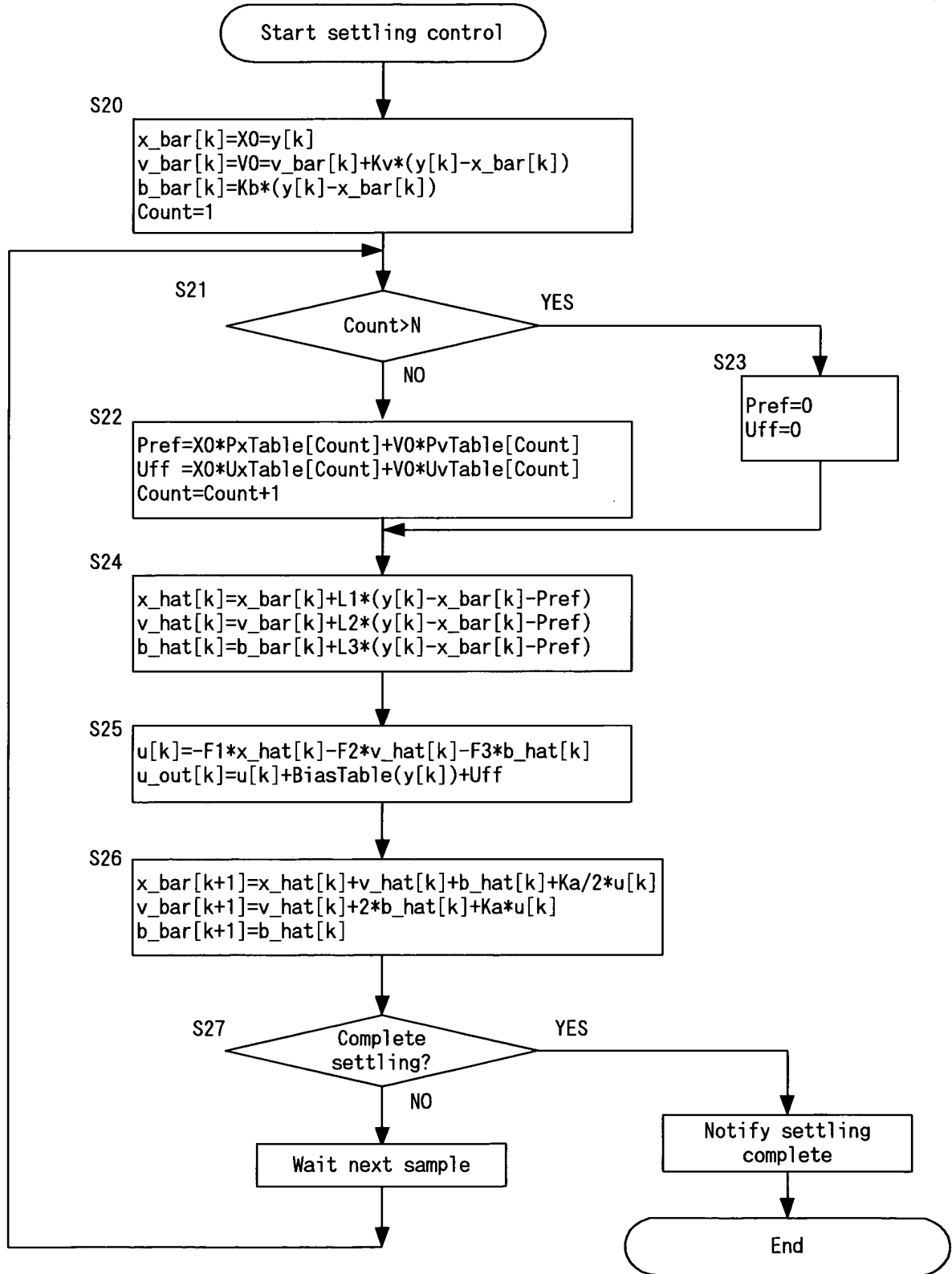
009111 82521260

FIG. 19



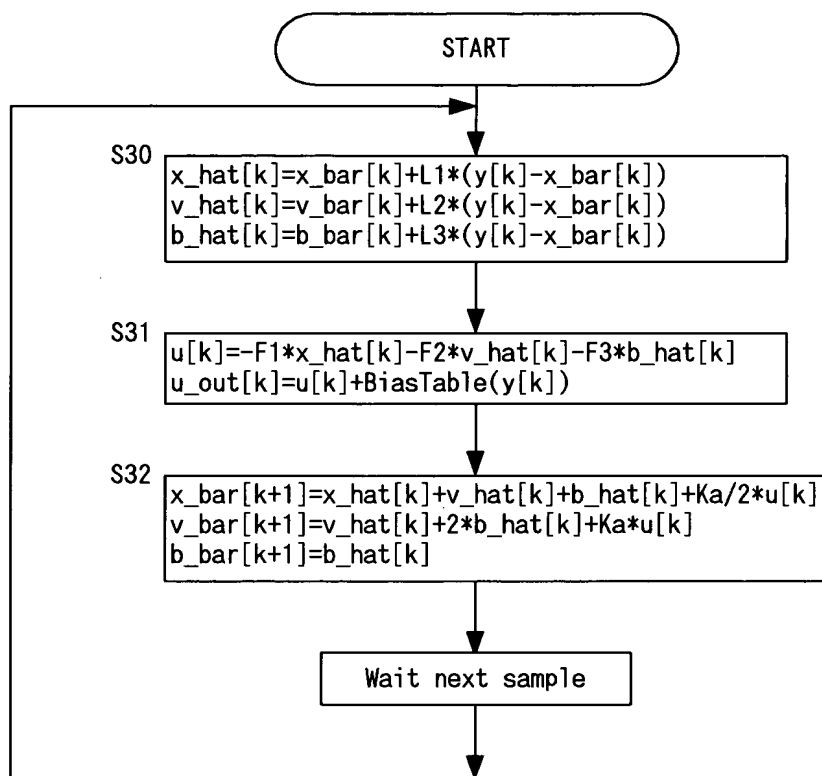
09713578-11600

FIG. 20



09713578.11600

FIG. 21



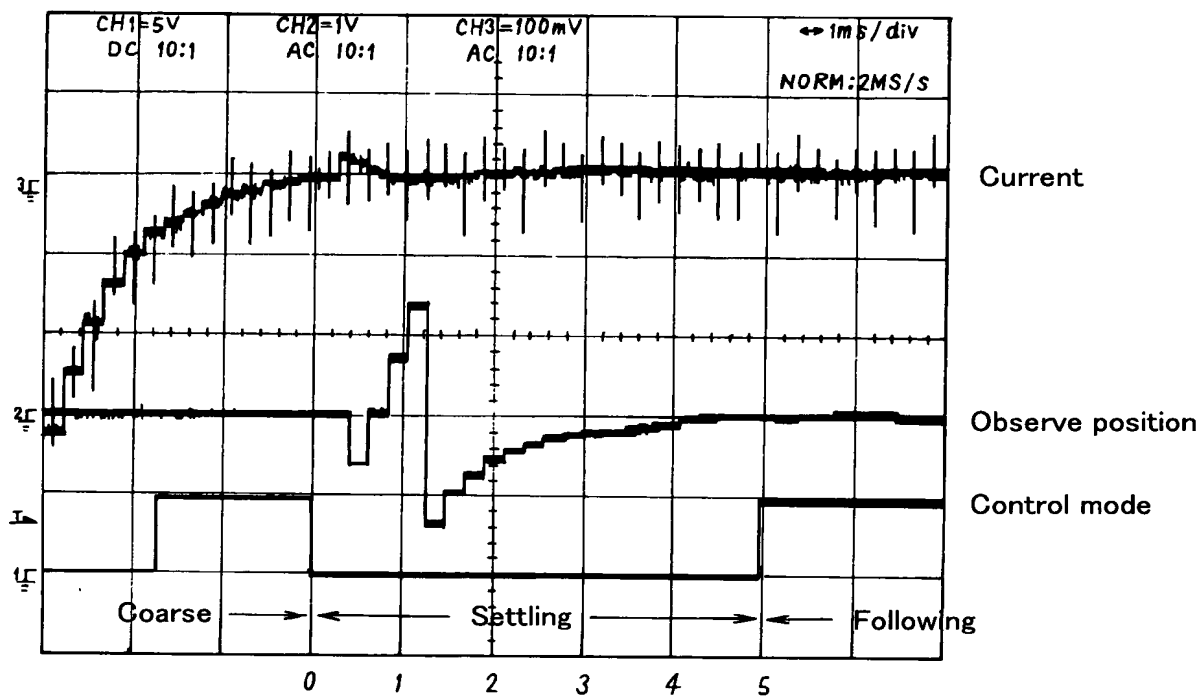
09713578-11600

APPROVED	D.G. F.G.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 22 of 47

FIG. 22

Prior art



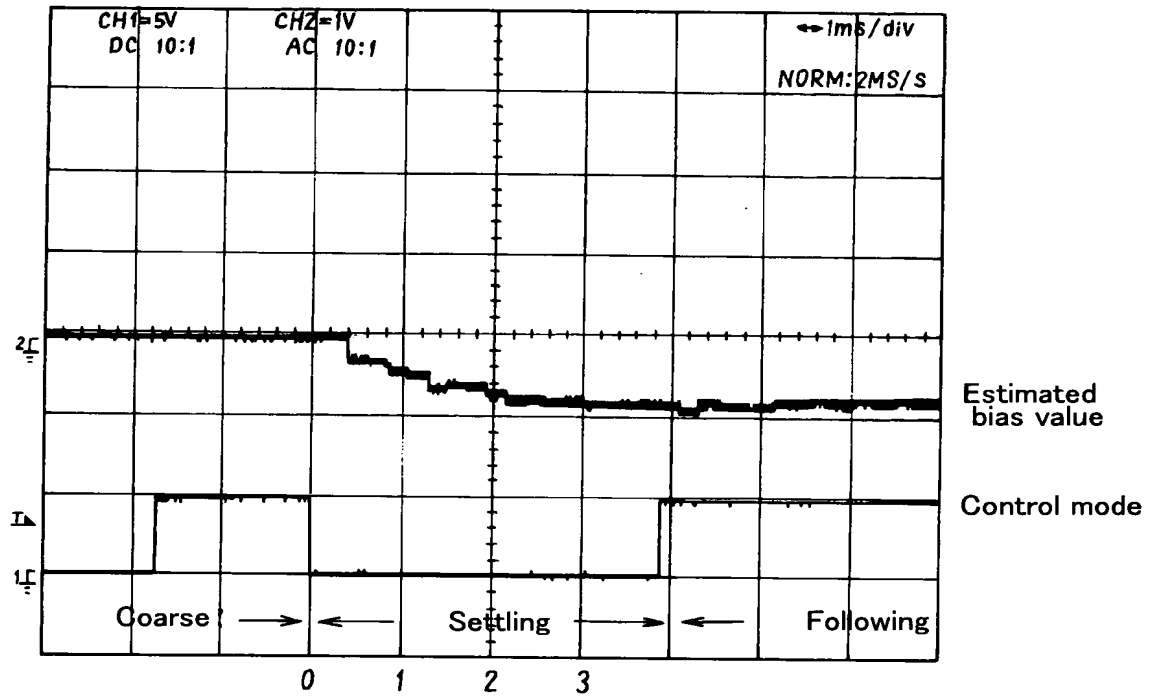
00911-8251260

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
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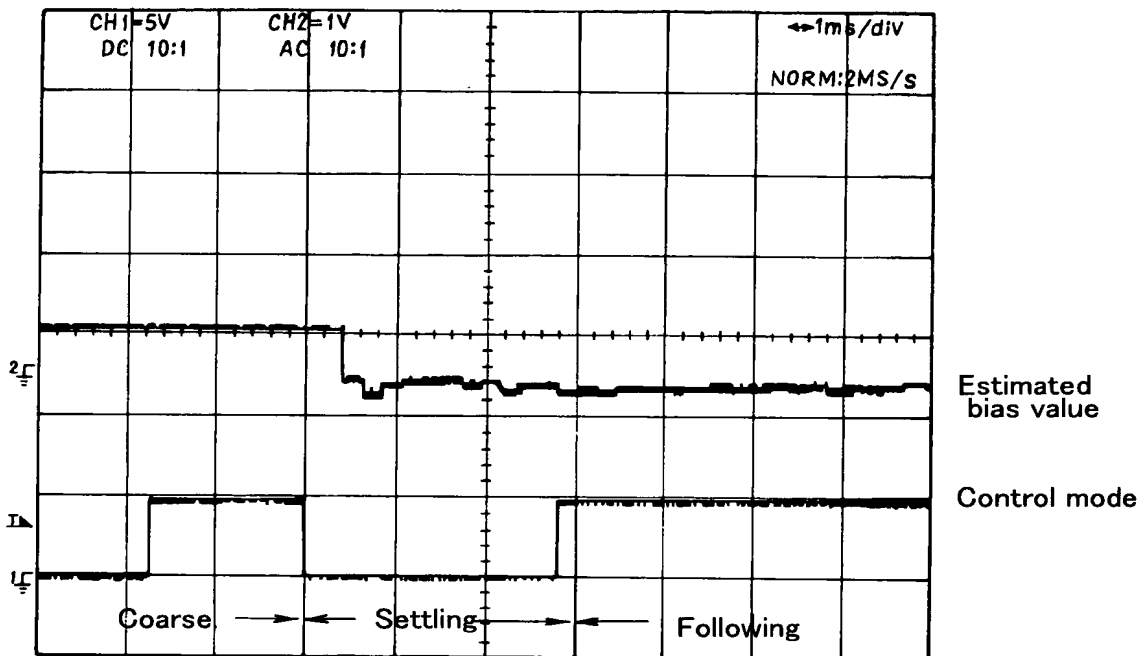
FIG. 23

Prior art



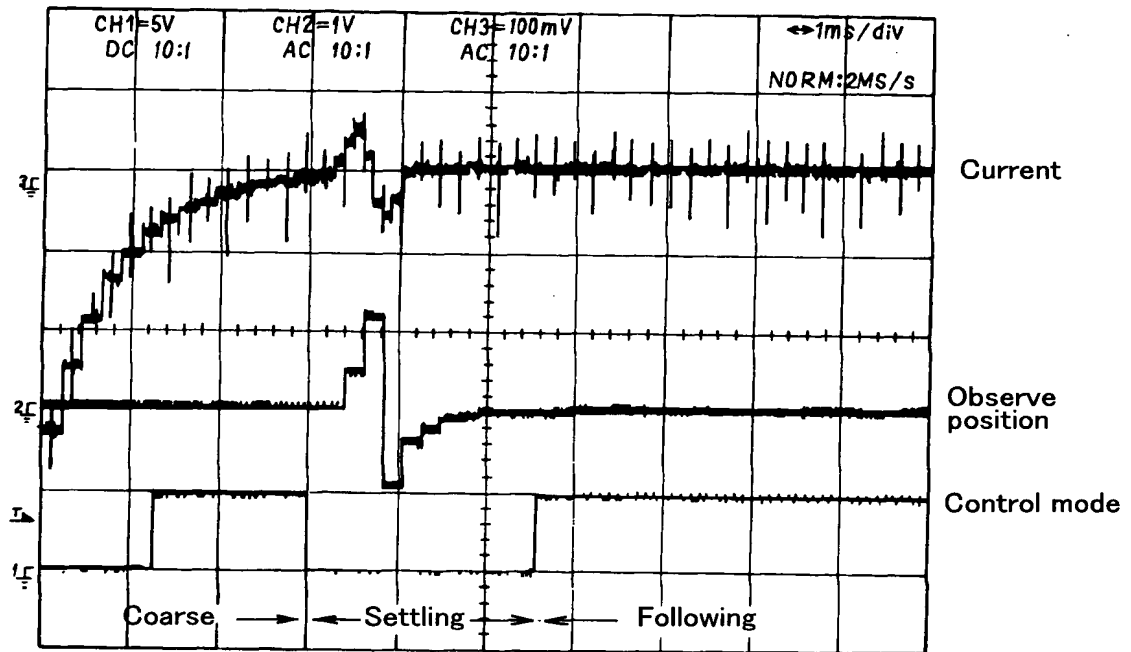
00911"8/5ET60

FIG. 24



009713578 111500

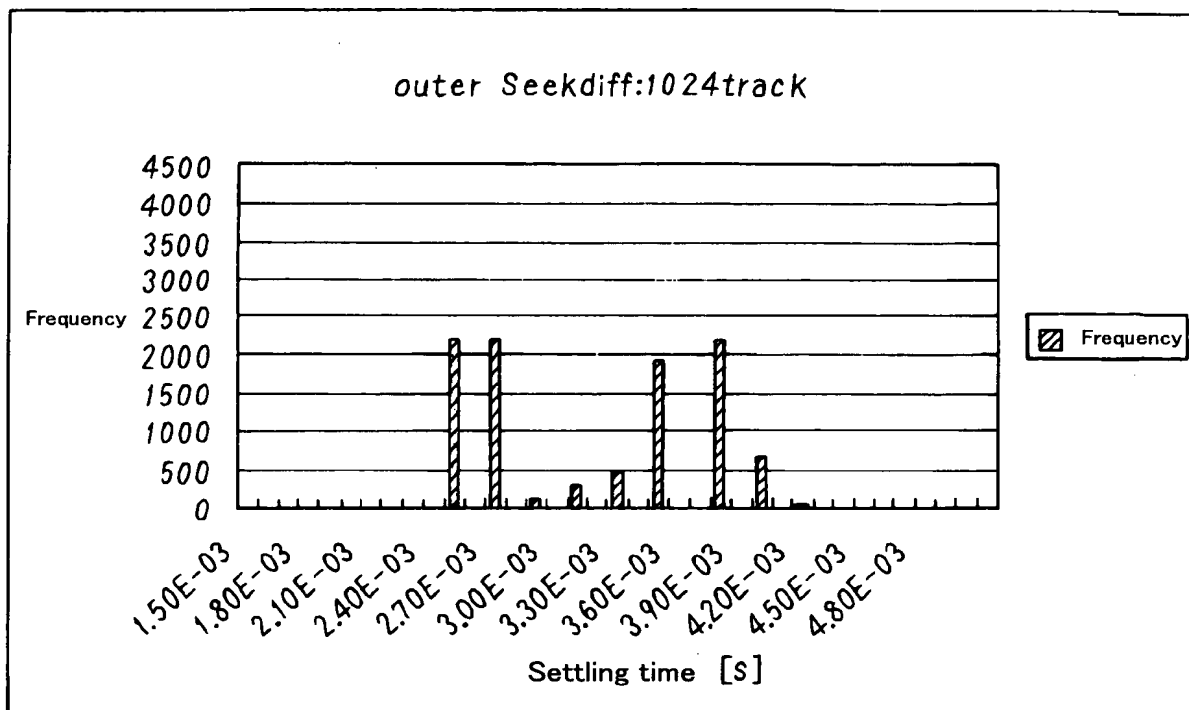
FIG. 25



09713578 11600

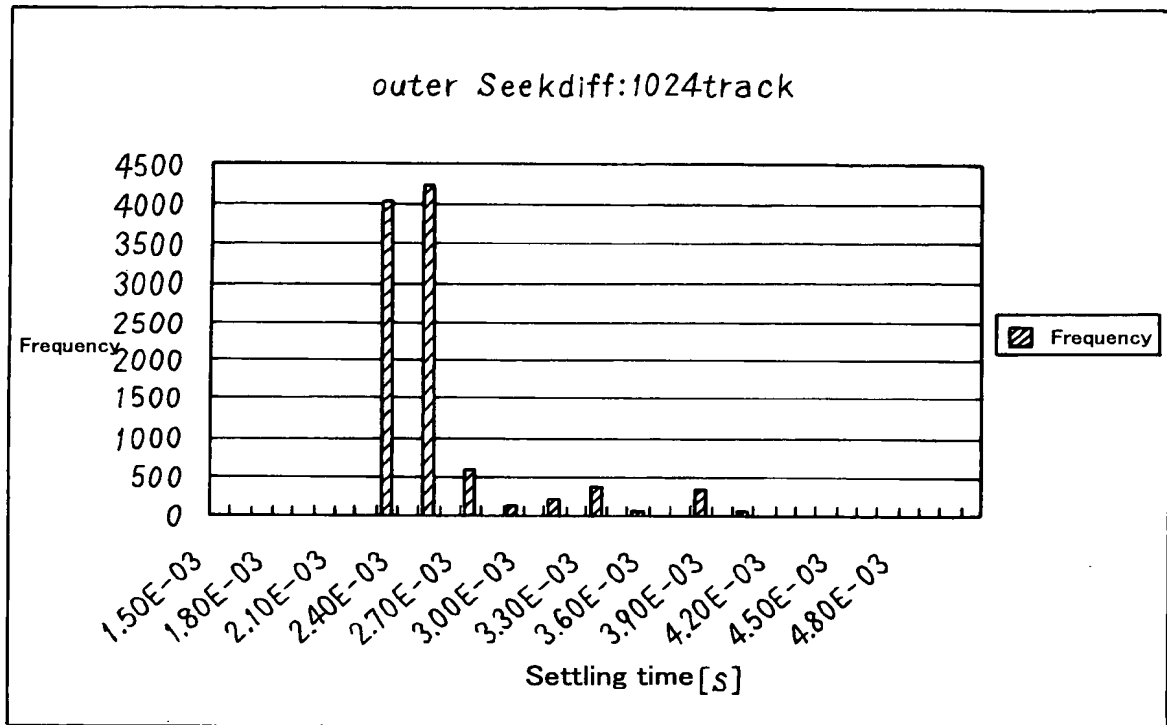
FIG. 26

Prior art



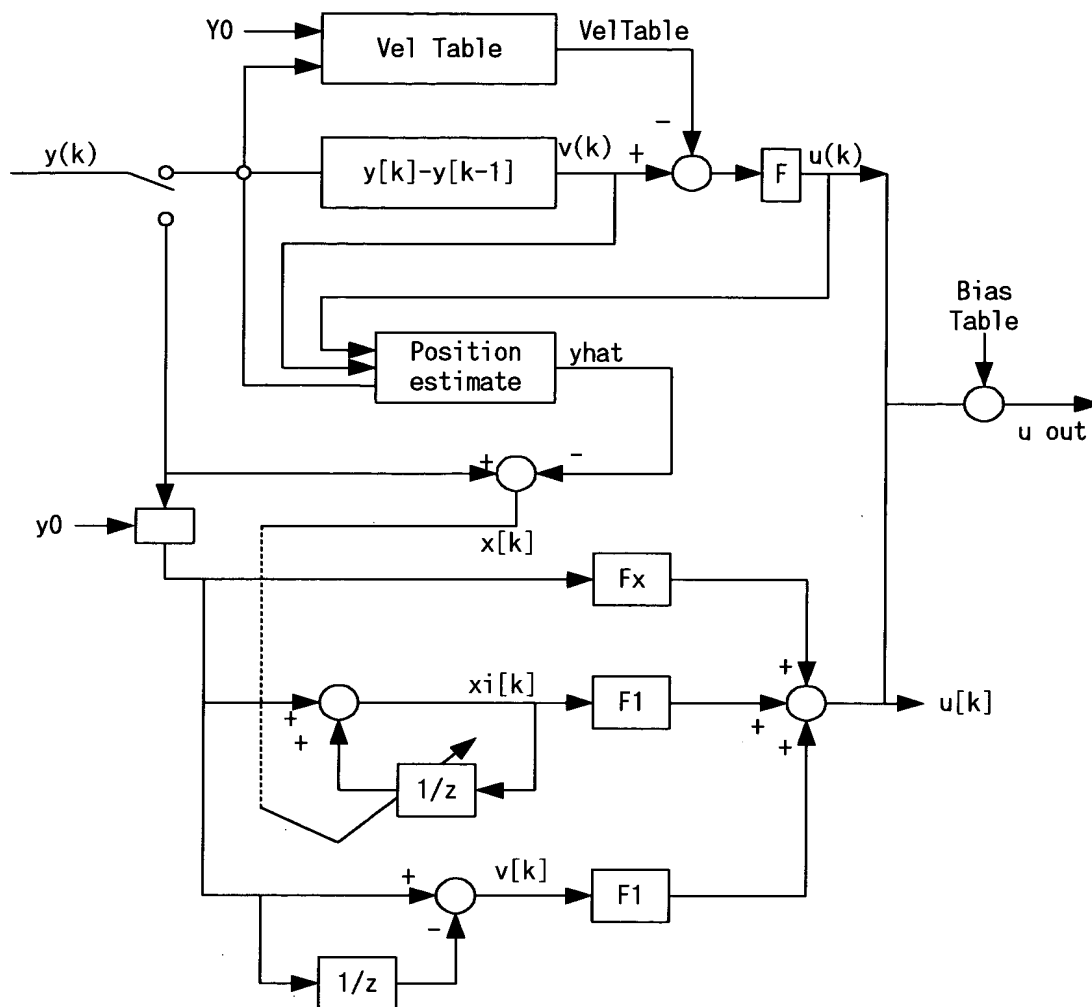
09713578.111500

FIG. 27



09713578-111500

FIG. 28



09713578.111600

FIG. 29

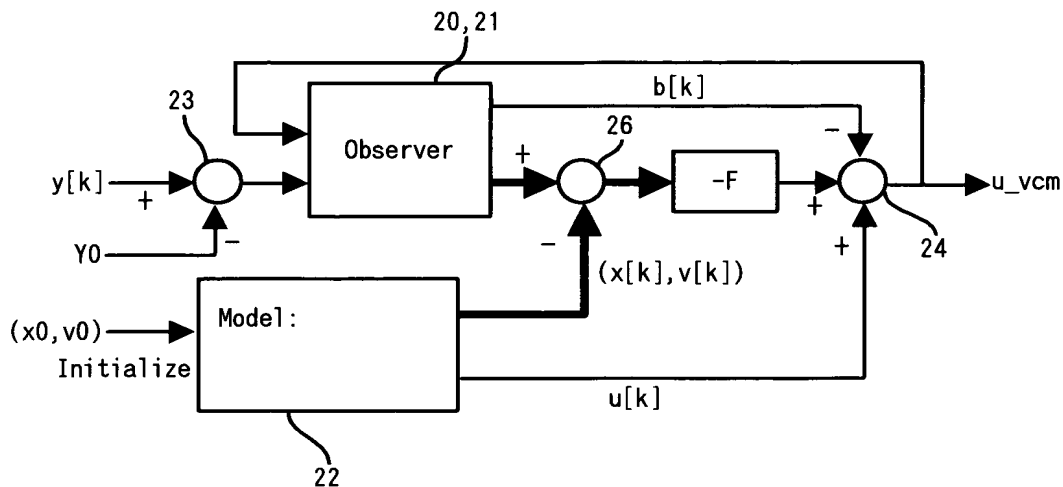
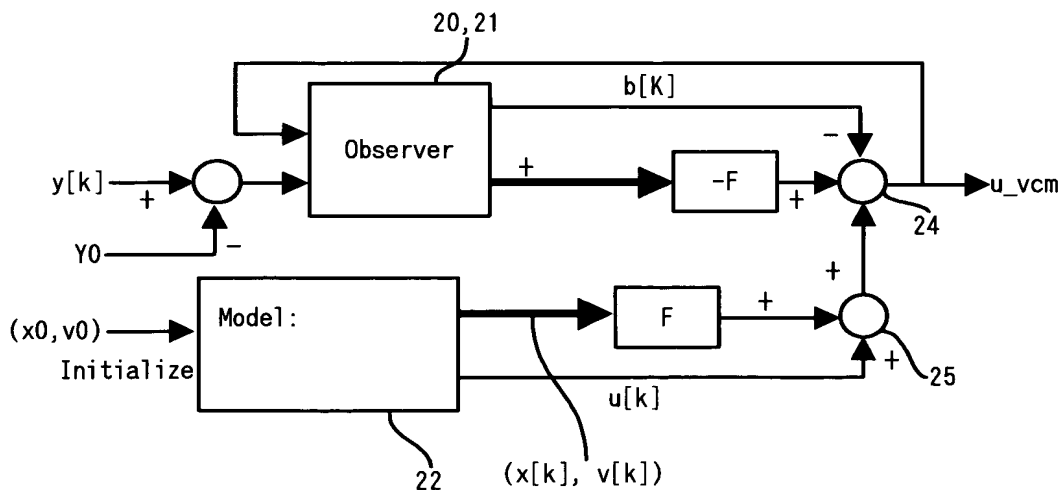
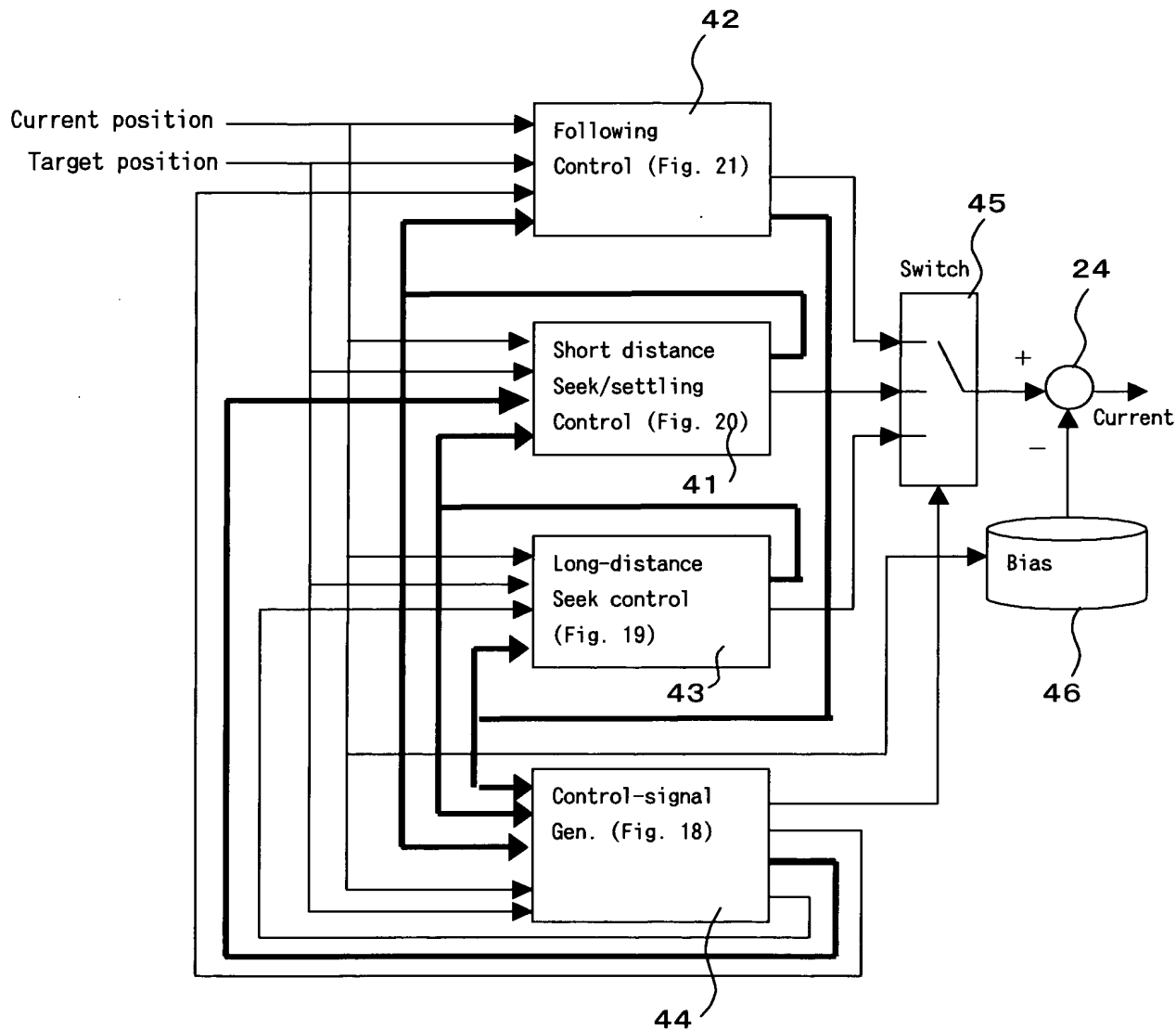


FIG. 30



09713578-11600

FIG. 31



00911" 8/5ET 250

FIG. 32

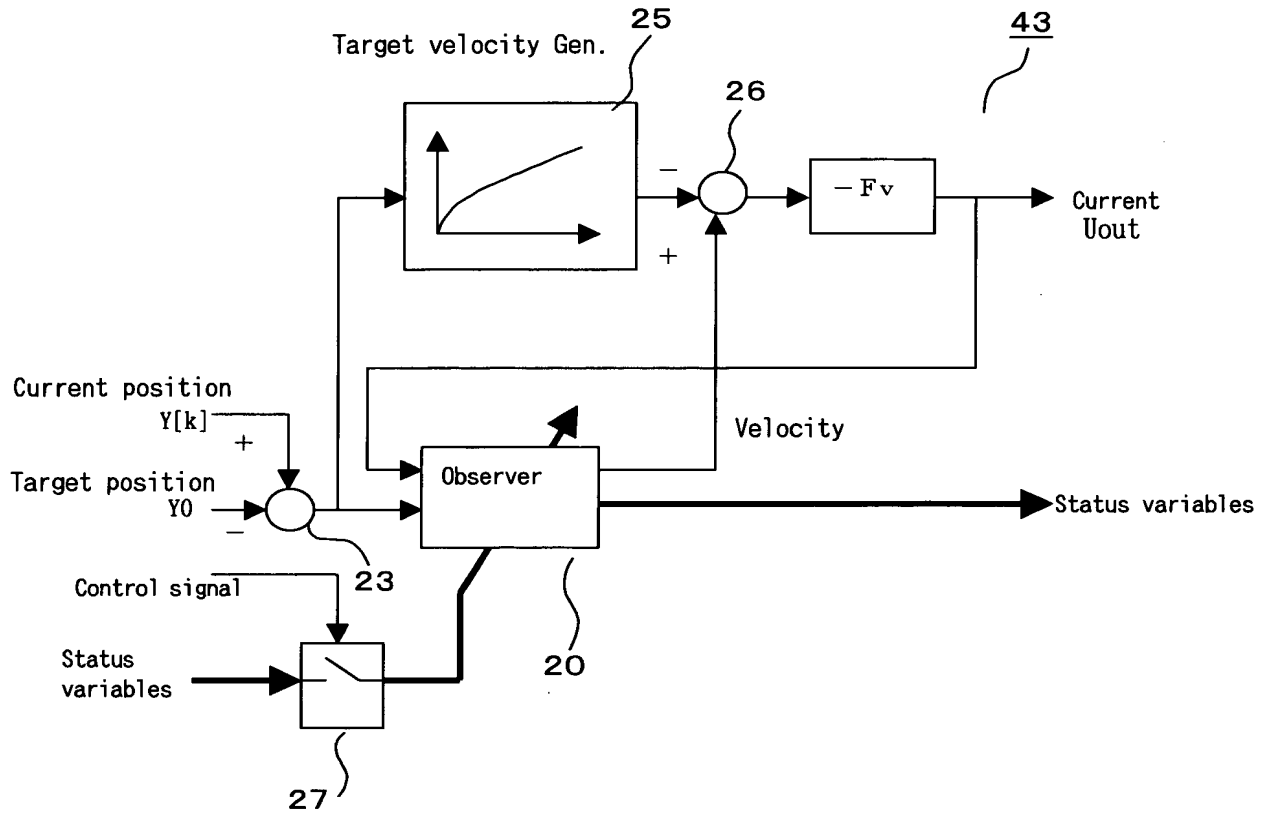


FIG. 33

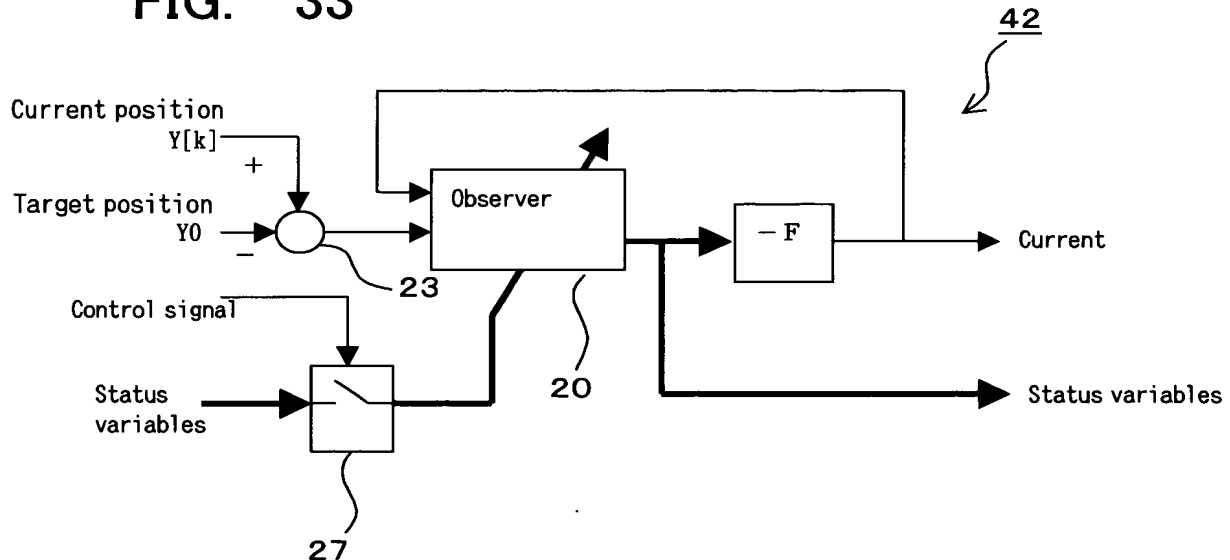
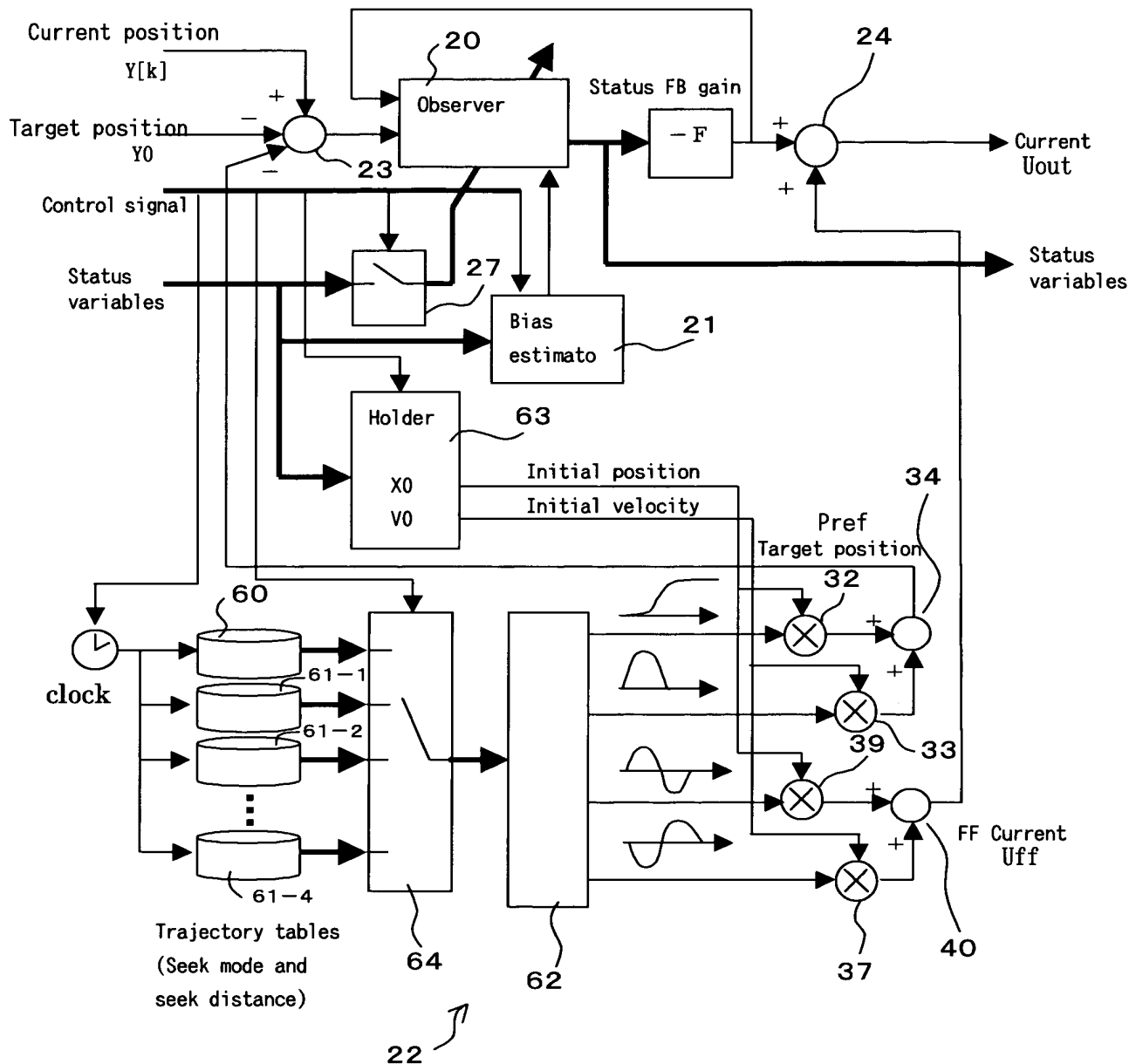


FIG. 34

41



00913578-11600

APPROVED	O.G. FIG.
BY	CLASS SUBCLASS

HEAD POSITIONING CONTROL METHOD.
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 33 of 47

FIG. 35

60-1 ~ 60-N



x[0], u[0], u[0.5],
x[1], u[1], u[1.5],
x[2], u[2], u[2.5],
x[3], u[3], u[3.5],
x[4], u[4], u[4.5],
x[5], u[5], u[5.5],

30, 36

x[0], u[0], u[0.5],
x[1], u[1], u[1.5],
x[2], u[2], u[2.5],
x[3], u[3], u[3.5],
x[4], u[4], u[4.5],
x[5], u[5], u[5.5],

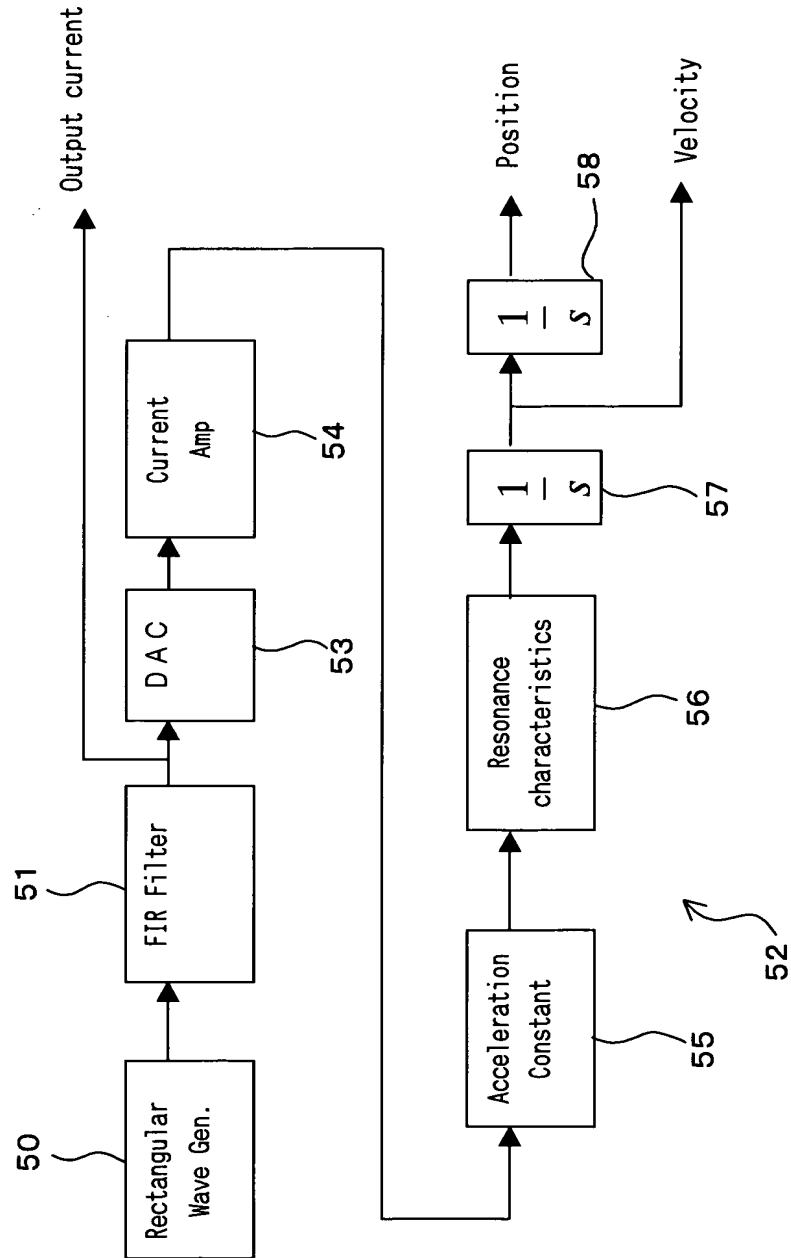
31, 38

09713578.11600

APPROVED	O.G. FIG.
BY	CLASS
DATE	SUBCLASS

HEAD POSITIONING CONTROL METHOD.
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 34 of 47

FIG. 36



009FF" 8/SET/60

FIG. 37

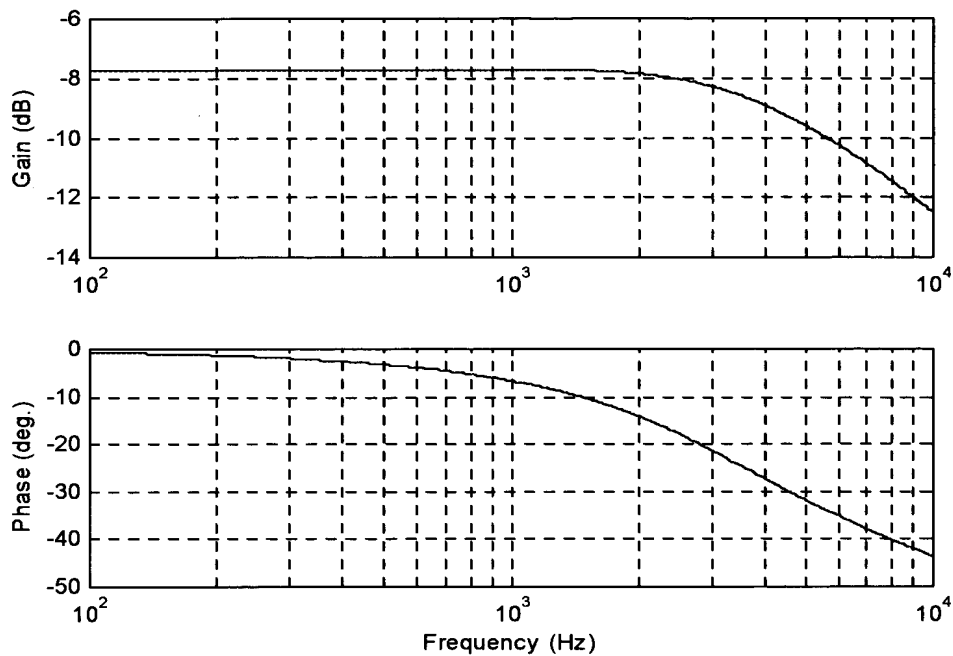
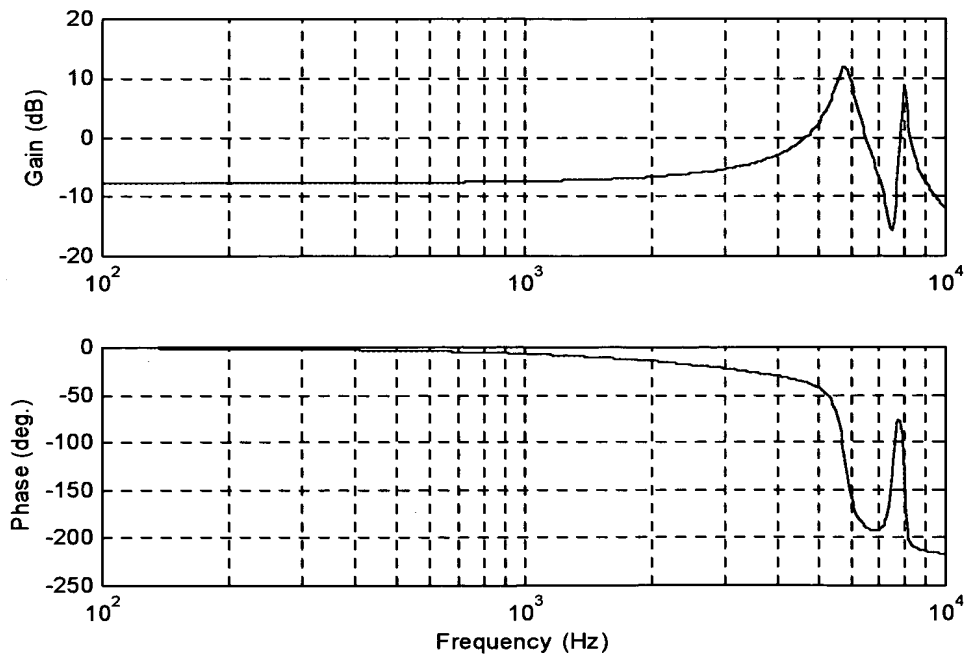


FIG. 38



009111-0255160

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 36 of 47

FIG. 39

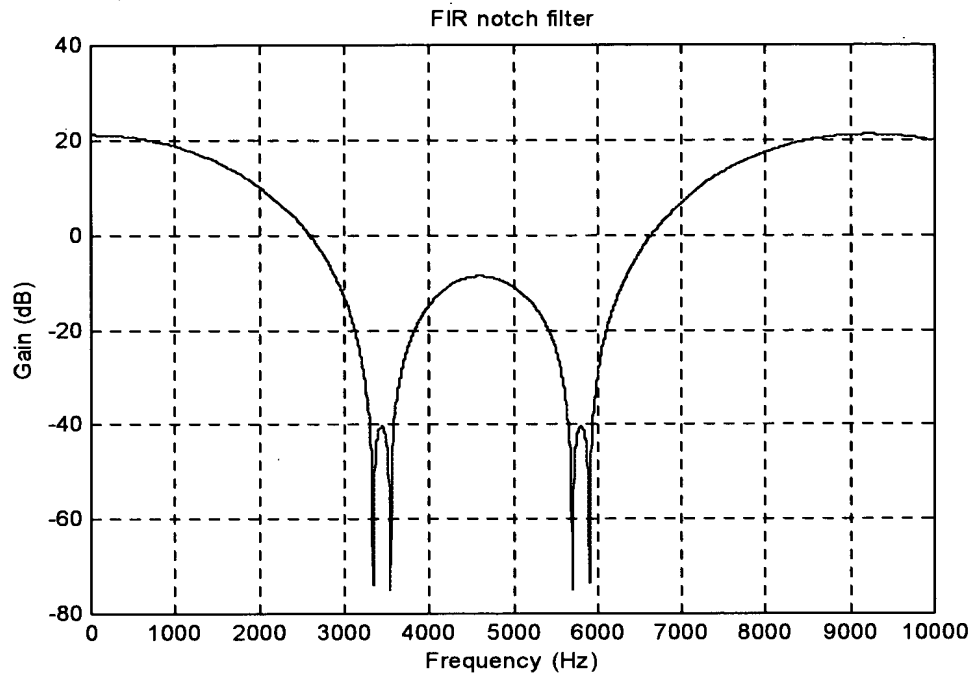
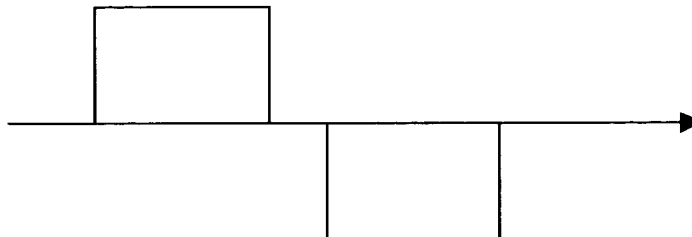


FIG. 40

Rectangular wave



009111" 8/5ET/60

APPROVED	D.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 37 of 47

FIG. 41

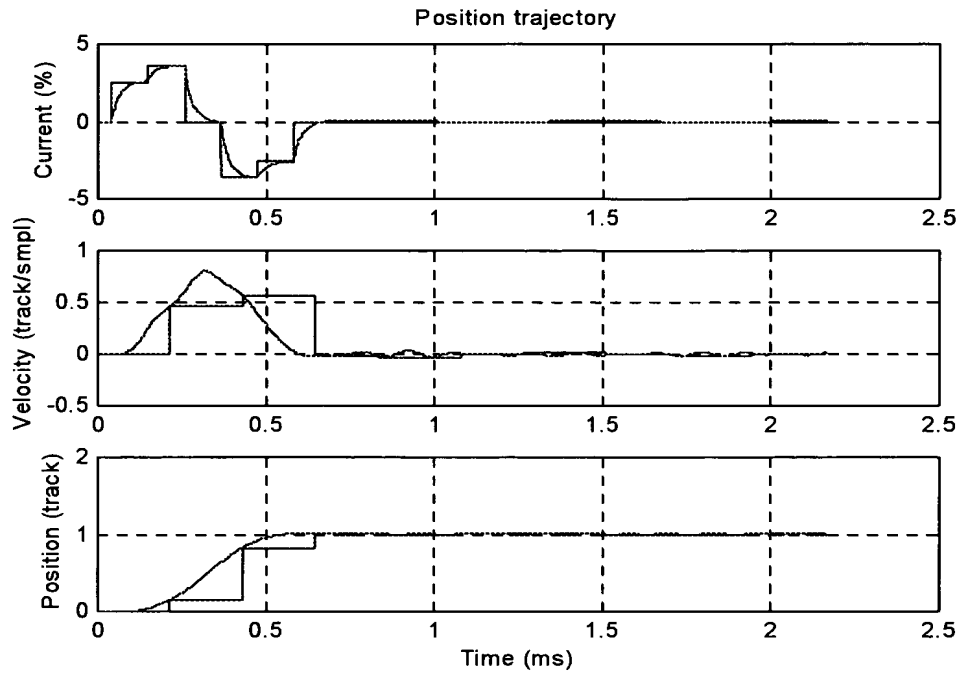
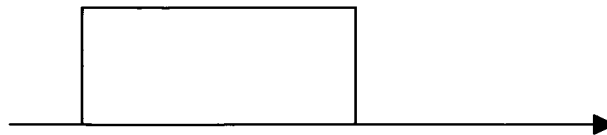


FIG. 42

Rectangular wave



00911T" 8/5ET/60

FIG. 43

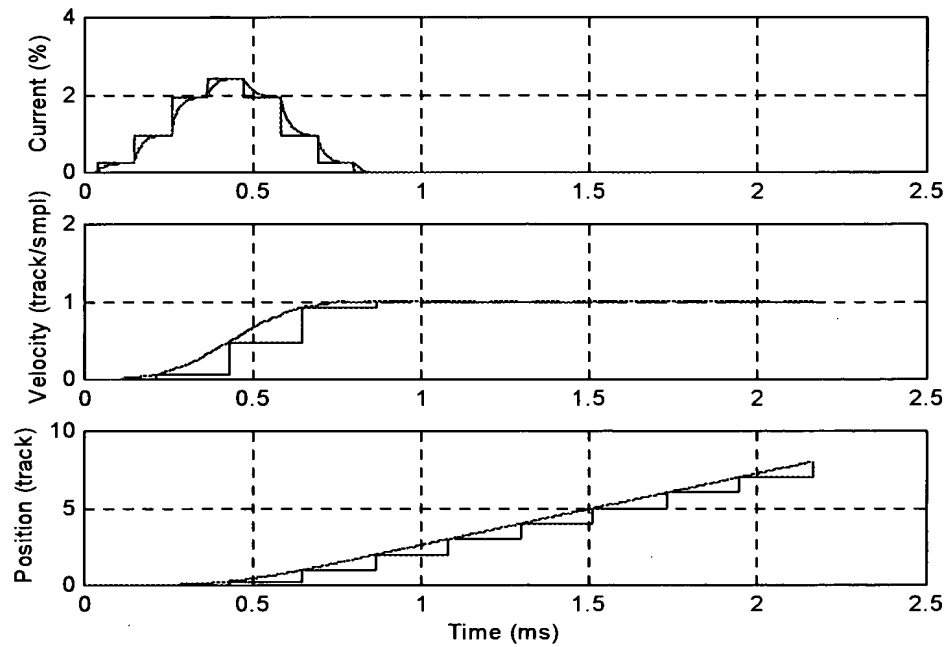
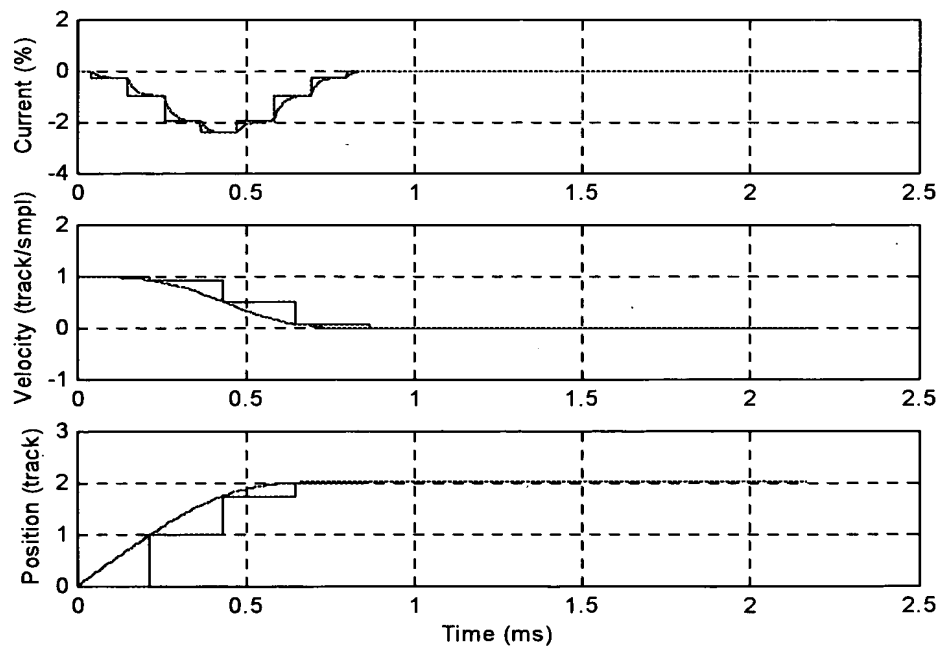


FIG. 44



009111" 8/55760

FIG. 45

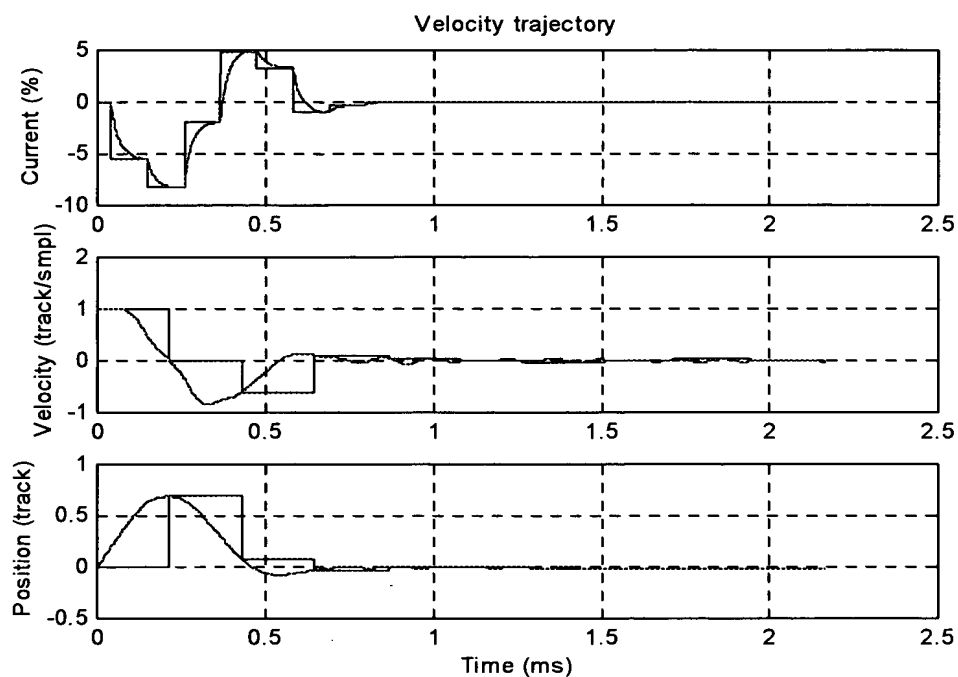
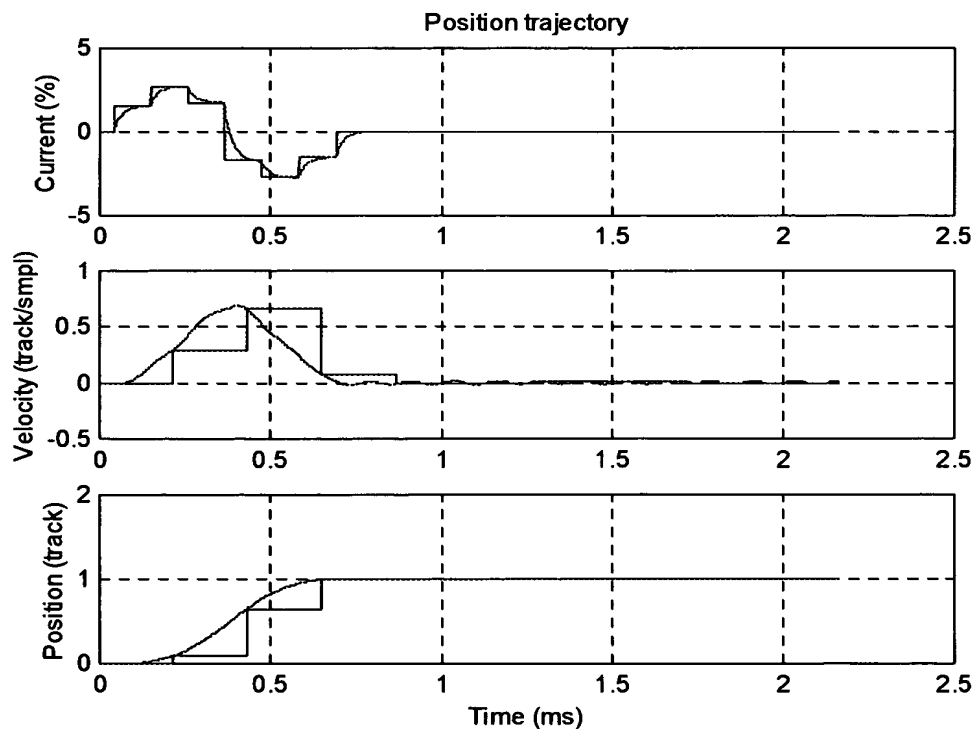


FIG. 46



009111-825ET 450

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 40 of 47

FIG. 47

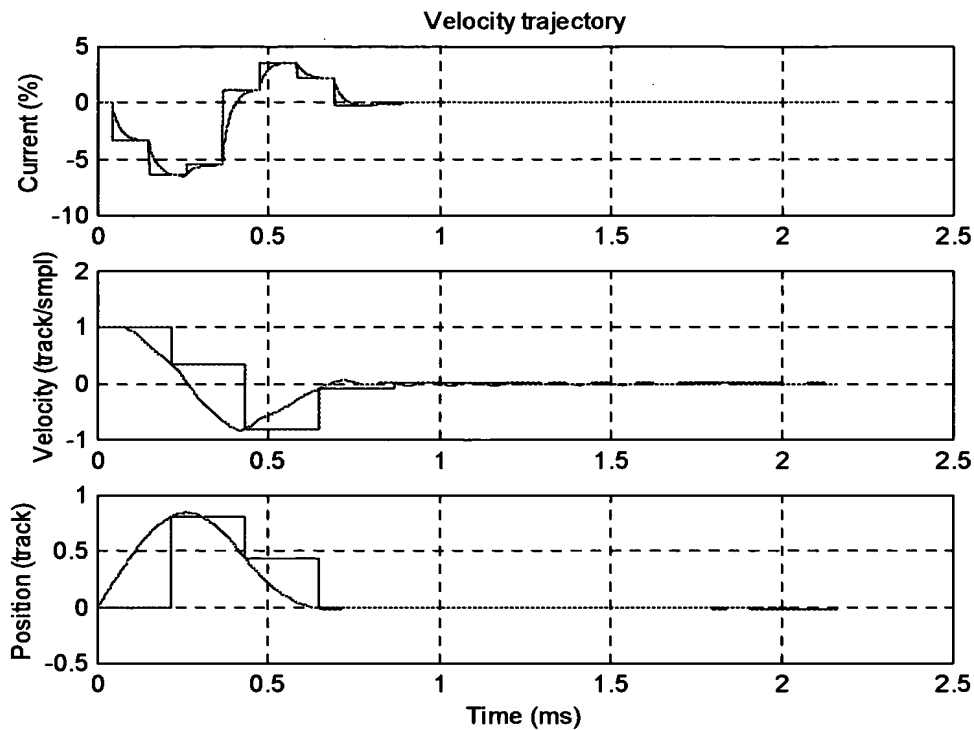
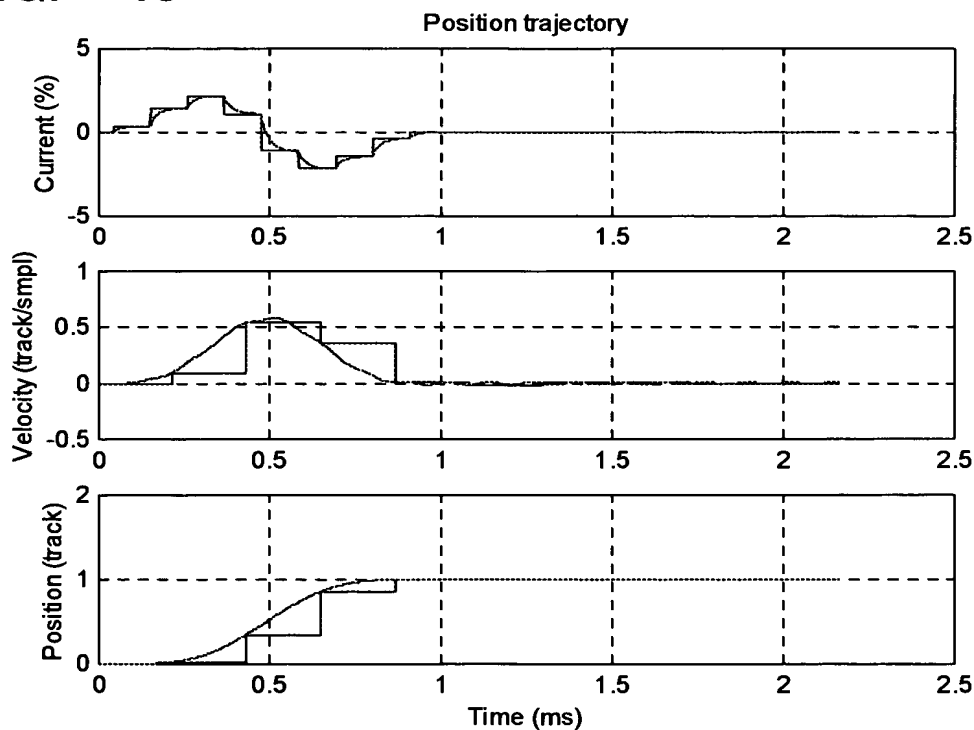


FIG. 48

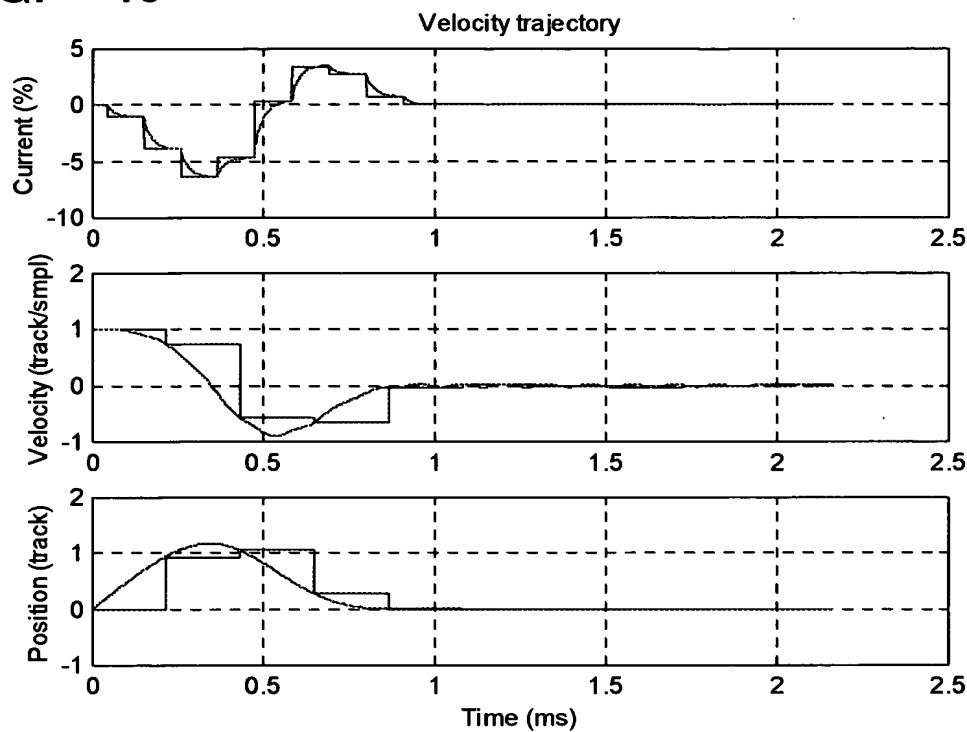


009TTF-8/SET/60

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 41 of 47

FIG. 49

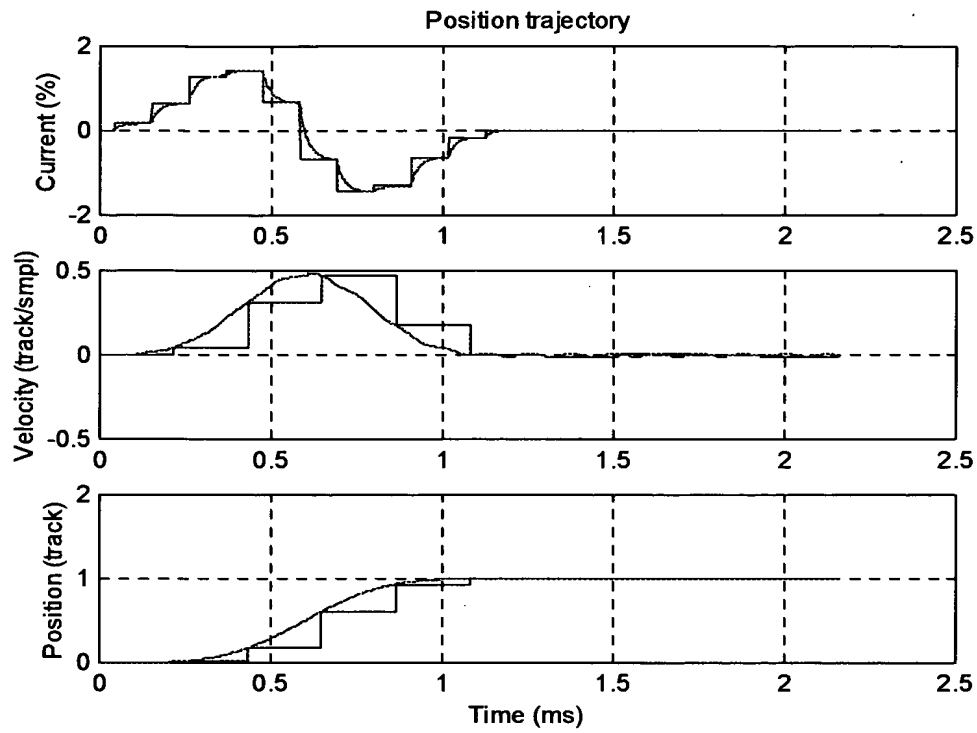


009FF" 875ET 760

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 42 of 47

FIG. 50

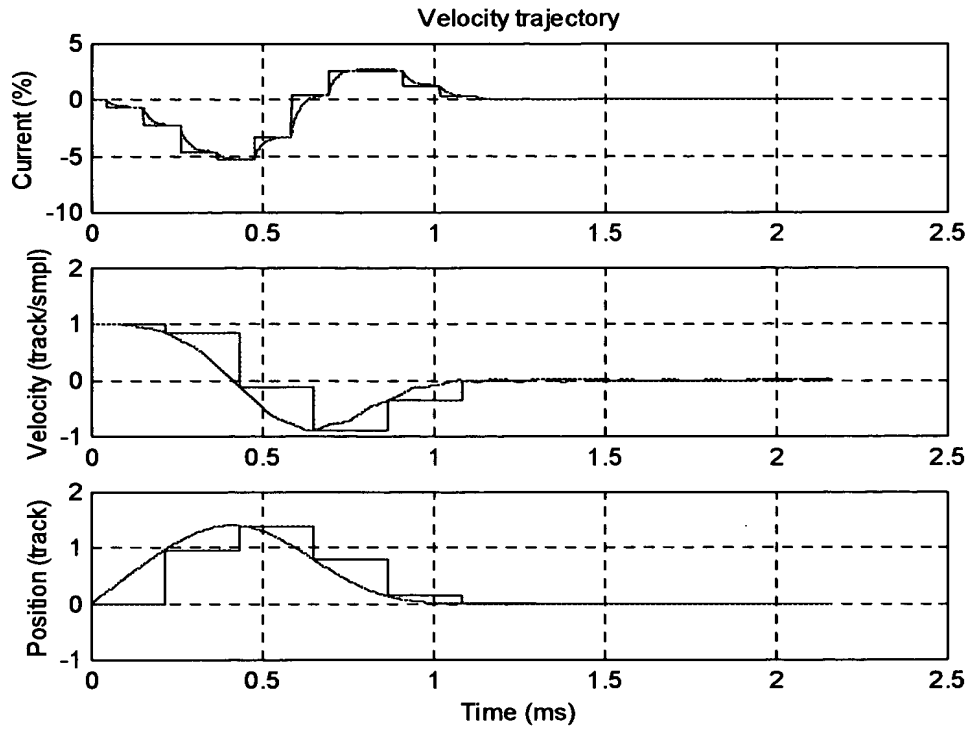


009111 8/557/60

APPROVED	O.G. FIG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 43 of 47

FIG. 51

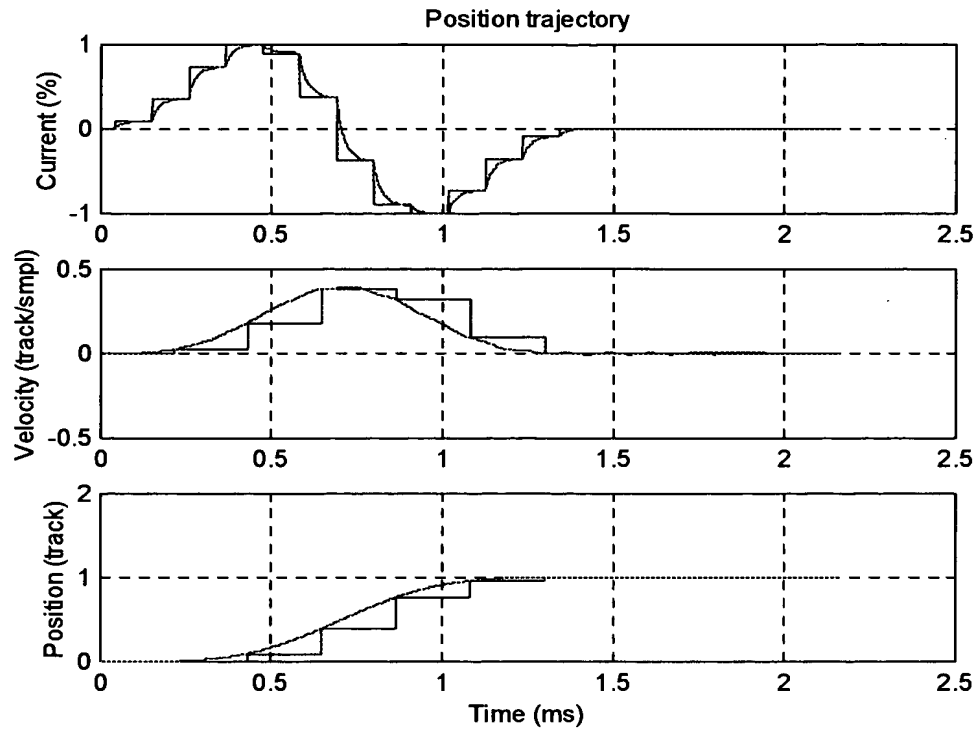


009TFT" 8/55T/60

APPROVED	D.G. FG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD...
 Kazuhiko Takaishi
 Greer, Burns & Crain, Ltd. (James Folker)
 Ref. No. 3408.64941
 (312) 360 0080
 Sheet 44 of 47

FIG. 52



009111" 8/5ET/60

FIG. 53

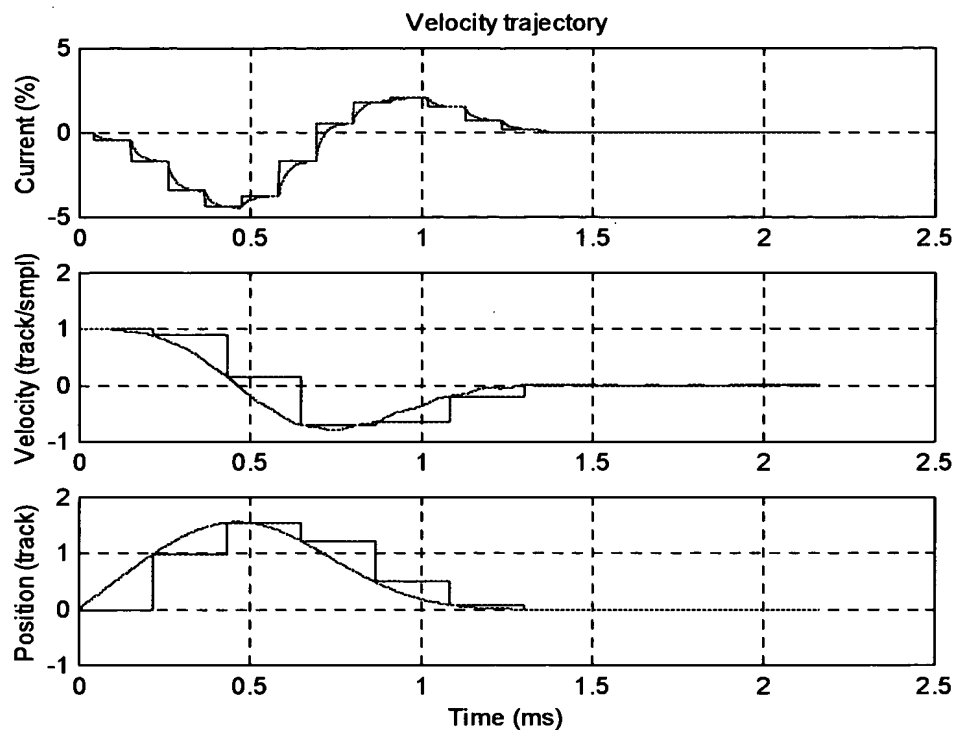
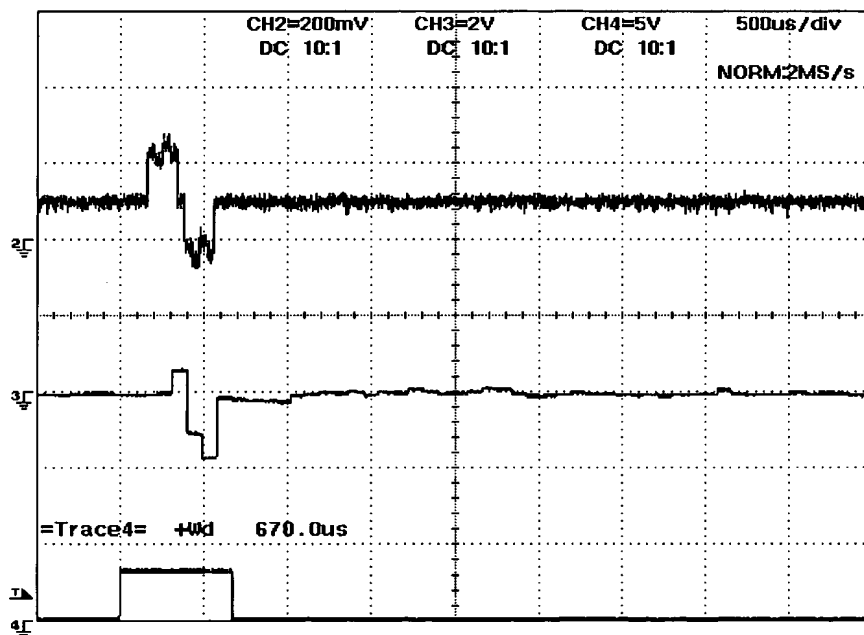
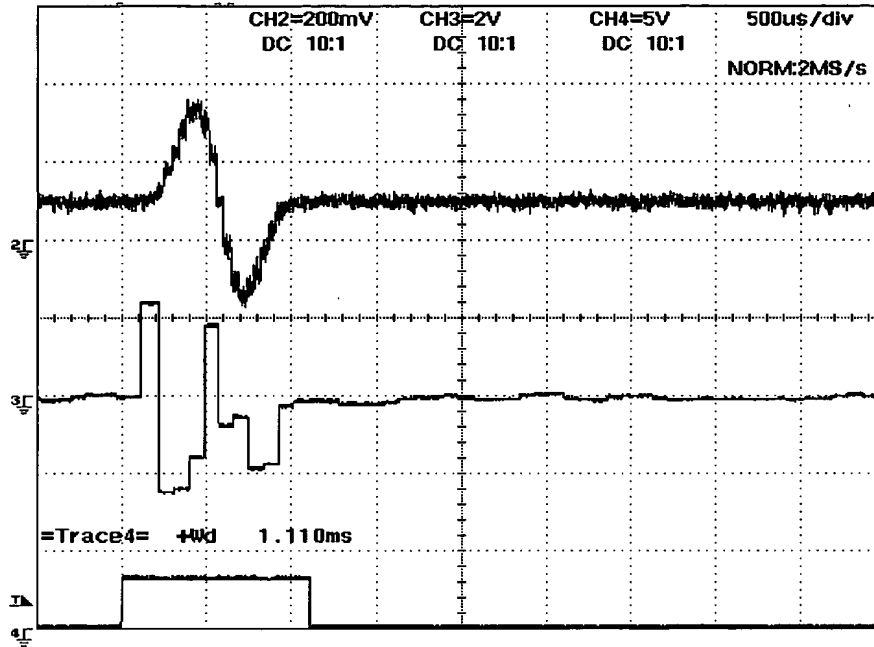


FIG. 54



009111 8753760

FIG. 55



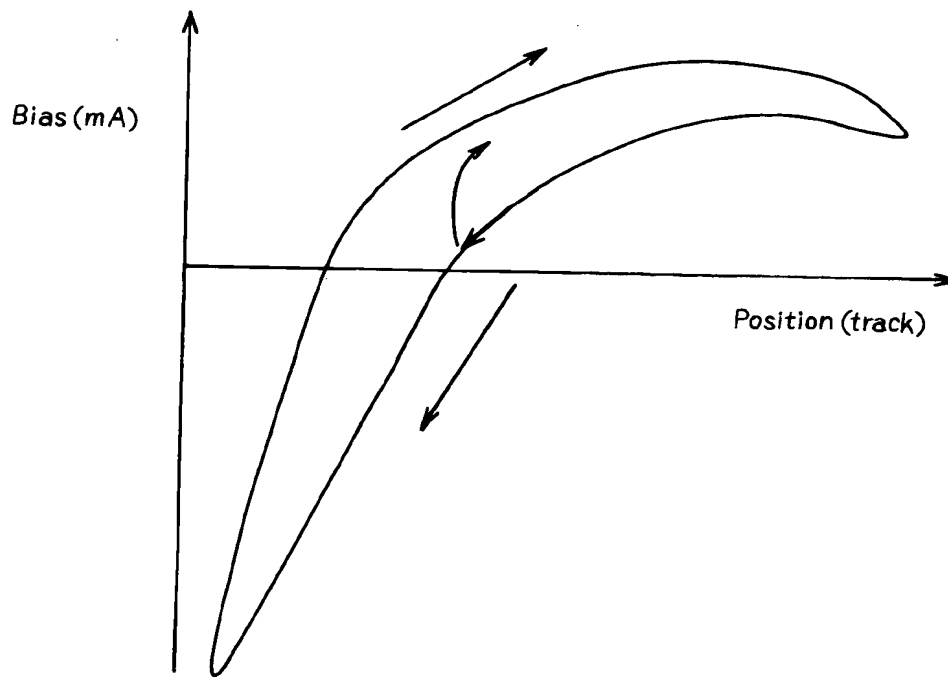
09713578-111500

APPROVED	D.G. FG.	
BY	CLASS	SUBCLASS
DRAFTSMAN		

HEAD POSITIONING CONTROL METHOD
Kazuhiko Takaishi
Greer, Burns & Crain, Ltd. (James Folker)
Ref. No. 3408.64941
(312) 360 0080
Sheet 47 of 47

FIG. 56

Prior art



09713578.111600